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**Sustaining Employment
Among Low-Income
Parents: The Role of
Child Care Costs and
Subsidies**

A Research Review

Final

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I. INTRODUCTION

The cost of child care is widely recognized as a major barrier to employment for low-income mothers of young children. Even modest child care costs can strain the budgets of low-income families. As a result, many of these families struggle to find free or low-cost child care in order to support their work activities. Because child care costs effectively reduce the net wage that mothers can earn, higher child care costs are associated with a lower probability of employment for women with children.

The negative effect of child care costs on the employment decisions of low-income mothers offers an important rationale for providing financial assistance for child care expenses, and indeed, child care assistance has long been part of the package of support services for welfare recipients entering employment. More recently, the amount of funding for child care assistance was an important part of the welfare reform debate in 1996. The design of child care assistance programs is a critical component of the issues welfare administrators must consider in promoting work and reducing welfare caseloads.

Policies designed to offer child care assistance in an equitable manner (for example, by providing more financial assistance to lower-income families) may alter work incentives in unintended ways (for example, by reducing the effective return to greater work effort). Policies designed to make child care more affordable may also affect the willingness of child care providers to supply child care services to low-income families. Policymakers need to know the extent to which parents and providers are sensitive to changes in child care prices in order to design policies that most effectively support employment. Moreover, while child care assistance may provide critical support to families leaving welfare, it may also help prevent families from entering the

welfare system. For example, families who must pay for child care without a subsidy may not be able to sustain these payments in the event of a personal financial emergency, making them vulnerable to job loss and welfare. Similarly, if child care assistance is much more available to families on welfare than to families who are not, working parents who are struggling to pay for child care may return to welfare to qualify for child care assistance.

As part of the Personal Work and Responsibility Act of 1997 (PRWORA), Congress ended several welfare-related child care assistance programs and folded them into the Child Care and Development Block Grant (CCDBG). The AFDC/JOBS Child Care program, the Transitional Child Care program, and the At-Risk Child Care program were all repealed, and child care funding was combined under the Child Care and Development Block Grant (CCDBG) program. As was previously the case in the CCDBG program, states were given substantial authority for defining eligibility and benefit levels for child care assistance. In this chapter, we discuss the CCDBG, other current subsidy programs, and the main themes of this paper.

A. THE CHILD CARE AND DEVELOPMENT BLOCK GRANT (CCDBG)

The CCDBG is designed to assist low-income families, families receiving welfare, and families making the transition from welfare to work in obtaining child care so that they can work or attend education or training programs. Most features of the program are the same as the previous CCDBG program, except that states now have the opportunity to fashion a child care assistance program that will support low-income families seamlessly through the transition from welfare to employment. Many states are now grappling with the issues of how best to support this transition and how to define the eligible population and benefits so that families most in need of child care assistance can receive it.

The CCDBG made available \$2.8 billion to states in fiscal year 1997, an increase in child care funding of \$698 million ~~over~~ fiscal year (FY) 1996 levels. Funding is provided in three streams: discretionary funds, which are provided to all states under the rules for allocating prior CCDBG funds; mandatory funds that are provided to all states based on historical spending levels for IV-A child care programs; and mandatory funds that require a state match, which are provided to all states at the Medicaid matching rate (FMAP) if they maintain prior IV-A state child care expenditures. States must spend no more than 5 percent of these funding streams on administrative activities. They are also required to spend at least 4 percent of total funds on quality-related activities, including but not limited to licensing, inspection, establishment and maintenance of computerized child care information, and resource and referral services. States may use a portion of CCDBG funds for respite child care for child protective services cases. Information on the proportion of CCDBG funding used for this purpose in each state is not yet available, but program regulations state that respite care should be “an infrequent use” of the CCDBG funds. In addition to the CCDBG child care funds, states may use funds from the Social Services Block Grant (SSBG or Title XX) program for child care services. Many states use part of the SSBG for child care. States may also transfer up to 30 percent of their TANF block grant to the child care block grant to be used for child care subsidies. Some states are allocating additional state funds to child care subsidies to provide more support for the employment of low-income mothers.

The total amount of funding available for child care and early childhood education services from federal, state, local, and private sources is not known with any certainty. States combine federal and state funding streams in complicated ways as they administer child care programs. Organizations use different definitions of subsidies and early childhood programs that are funded by the states and the federal government. No central source of information on state child care spending exists. Local

and private funding for child care is difficult to track in a systematic way. Jones et al. (1998) estimated that the federal government, states, and foundations spent at least 17.5 billion on early childhood care programs (including subsidies) in recent fiscal years, although the amount of state funding was underestimated because the available data are incomplete. Stoney and Greenberg (1996) estimate total spending on early childhood programs by government and foundation sources at about \$16.4 billion annually. These authors point out that understanding the size of the contributions of nonfederal sources to early childhood programs is now much more important because of devolution.

B. UNDERSTANDING THE EFFECTS OF CHILD CARE COSTS AND SUBSIDIES ON THE EMPLOYMENT OF LOW-INCOME PARENTS

The effects of child care costs on the employment of low-income parents, and the ways in which child care subsidy policies support employment by making child care more affordable and expanding child care choices, are the main themes in this paper. In the next chapter, we discuss what is known about the child care needs and resources of low-income families, and the cost of child care they face in the market. We also discuss the effects of child care costs and subsidies on the employment decisions of low-income parents. The research literature has shown that mothers' employment decisions are moderately sensitive to child care costs. Therefore, child care subsidies hold the potential to encourage employment among mothers leaving welfare.

One of the ways in which subsidies can encourage employment is by providing mothers with the financial support to afford their preferred type of child care. Subsidies can also enable the family to have higher disposable income when parents are working. However, child care subsidy policies can change the relative prices of different forms of child care and parent's perceptions of the relative costs and benefits of employment. This, in turn, can lead the parent to make different employment

and child care choices than she would in the absence of subsidies. Understanding how variations in subsidy policies may **affect** employment and child care choices is important if policymakers are to design optimal subsidy programs that encourage work at a reasonable cost to the program. These issues are discussed in Chapter III.

In Chapter IV, we discuss how subsidy policies and regulations affect the choices that child care providers make with respect to the supply of child care, including quantities, quality, and prices. Providers react to changes in payment rates and regulations that affect their costs and may affect their position relative to other providers with whom they compete in the market. Understanding providers' reactions is important if we want to design policies that ultimately help parents as they are intended to.

The purpose of this paper is to provide background for developing a research agenda that would inform the design of child care policy oriented toward families leaving welfare for work and toward low-income working families in general. The final chapter summarizes what we know about the cost of child care and its relationship to the employment and child care choices of low-income parents, and proposes an agenda for future research. Two companion papers review research on the links between employment and the quality of child care and the issue of flexibility in family situations, jobs, and child care as it relates to the ability of parents to find a job and remain employed.

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II. LOW-INCOME FAMILIES IN THE CHILD CARE MARKET

We begin with a discussion of the financial resources of families headed by a low-wage earner and the consequent financial burden of child care on these families. Because the prevailing prices of different types of child care affect parents' choices of child care and their employment decisions, we end with a discussion of empirical estimates of the sensitivity of women's employment decisions and child care choices to the level of child care prices.

This chapter examines the relationship between child care costs and employment to establish a basic understanding of the decisions made by low-income families in the current child care market. We do not consider the effects of subsidies on family decisions at this point in our analysis because their choices are not necessarily influenced greatly by the subsidy system. The total amount of public resources available for child care subsidies for low-income working families has grown substantially over this decade; yet, the vast majority of low-income families do not receive assistance paying for child care. Rough estimates suggest that child care assistance is received by families for only about 1 in 10 eligible children, although we lack critical, basic information linking data on current state rules for child care program eligibility, and family income and characteristics by state, and information on the number and characteristics of families participating in child care subsidy programs that would support a more definitive estimate of the number of eligible children by state and participation rates by state and demographic group.

A. THE ECONOMIC PROBLEM OF CHILD CARE FOR LOW-INCOME FAMILIES

To work outside the home, many low-income parents need to find child care for their young children. However, low earnings make it **difficult** for them to afford the potentially high cost of child care. These issues of need, resources, and affordability are important determinants of the employment decisions low-income parents make with respect to child care.

1. The Need for Child Care

If we consider only families receiving welfare, we find that there are many children who would need child care if their parents went to work (U.S. House of Representatives 1998). In 1995, 9.3 million children received welfare, and the vast majority of these children would need care if their parents were working. Nearly half of all children in welfare families are under 6 years of age, and would therefore need care during all of the parents' work hours. Nearly one-third more of the children in welfare families are in grade school (ages 6 to 12 years), so depending on the parents' work schedule, they may need someone to care for them only part-time, outside school hours.

From the perspective of parents on welfare, many have at least one very young child who would need care during all of the parents' work hours. Nearly 40 percent of the parents on welfare have an infant or toddler (and possibly some older children) who would need care if they worked. Nearly one-quarter more of the parents have a preschool-age child (and possibly some older children) who would need care if they worked. Overall, 62 percent of the parents receiving welfare would need to secure child care for a substantial amount of time during the day for their children who are not yet in school. Another 24 percent have a child in elementary school who would need supervision outside school hours.

Many working families who are not receiving welfare also have a relatively low income and young children. Although low-income working families have presumably found child care

arrangements, this solution may not be permanent. The low-cost arrangements many of these mothers may find can be unstable or of low quality and may leave them vulnerable to child care problems that can lead to work disruptions and the need for welfare assistance. In fact, many women have in past years moved between welfare and employment so that the distinction at a point in time between the “welfare” and “working” poor may not be a meaningful one. Reliable, good-quality child care arrangements may be necessary to support the employment of both the welfare and working poor, and the cost of these arrangements may be substantial in relation to their income levels. If we consider only families in poverty, there were about 4.1 million children under age 6 receiving welfare in 1995. An additional 1.7 million children under 6 were living in poor families that did not receive welfare. The working parents of many more young children have an income near the poverty line and so might need child care assistance in order to continue working. We discuss how parents’ employment choices are influenced by child care costs in Section B of this chapter.

2. Families’ Resources

Families leaving welfare for work are expected to have relatively low earnings. Burtless (1995 and 1997) followed a group of women leaving welfare for work over the period 1979 to 1990. The median wage for a worker entering the labor market was just over \$6 per hour, or just over \$12,000 per year (in 1993 dollars). The lowest-paid decile of workers earned about \$5 per hour or less, and the highest-paid decile of workers earned about \$9 per hour or more as they entered the labor market. The women included in this study typically worked part-time and/or part-year, and since part-time workers tend to earn slightly lower wages than full-time workers, this average wage may underestimate what these women might have earned at full-time jobs. However, Burtless (1995 and 1997) also points out that, because welfare program rules did not require many women to work in the 1980s, the women in this study who were working were those with more skills and fewer barriers

to work, which means that the average wages in his study may over-estimate what the average woman leaving welfare today might earn.

Low-income working families generally have more resources to work with than earnings alone. The Earned Income Credit (EIC) provides a maximum of \$2,210 per year to a working parent with one child, and a maximum of \$3,656 per year to a working parent with two or more children (for tax year 1997). The credit is phased out starting at earnings of \$11,930 per year for a family with two or more children. The EIC ends at an adjusted gross income of \$29,290. Food stamps are also available to low-income families with a gross income (including earnings and EIC) below 130 percent of the federal poverty line, or \$17,329 for a family of three in 1997 who meet certain other eligibility requirements. In FY 1991, monthly food stamp benefits averaged about \$170 per household, or about \$2,000 per year. Food stamp benefits are reduced by 30 cents for each additional dollar of income. The Congressional Research Service (CRS) has developed estimates of disposable income at various wage levels for a mother of three in one state (Pennsylvania). CRS calculates disposable income as the family's income after adding the EIC, welfare benefits, and food stamps; subtracting social security taxes and any federal and state income taxes; and subtracting work expenses (10 percent of earnings up to a maximum of \$100 monthly for general expenses, plus child care costs) (U.S. House of Representatives 1998). We have revised the calculations to omit child care costs so that we can consider what the family's disposable income is before child care costs. As gross earnings rise from \$2,000 and \$15,000, disposable income rises more slowly, from \$9,773 to \$16,803, as welfare benefits, the EIC, and food stamps are gradually withdrawn, leaving net earnings as an ever-larger share of total income. Figure 11.1 shows how gradually disposable income rises as gross earnings increase. A mother earning \$6 per hour, or \$12,000 for full-time, full-

year work, would have disposable income of \$15,631 because the EIC and food stamps exceed the amounts paid for social security taxes and general work expenses.

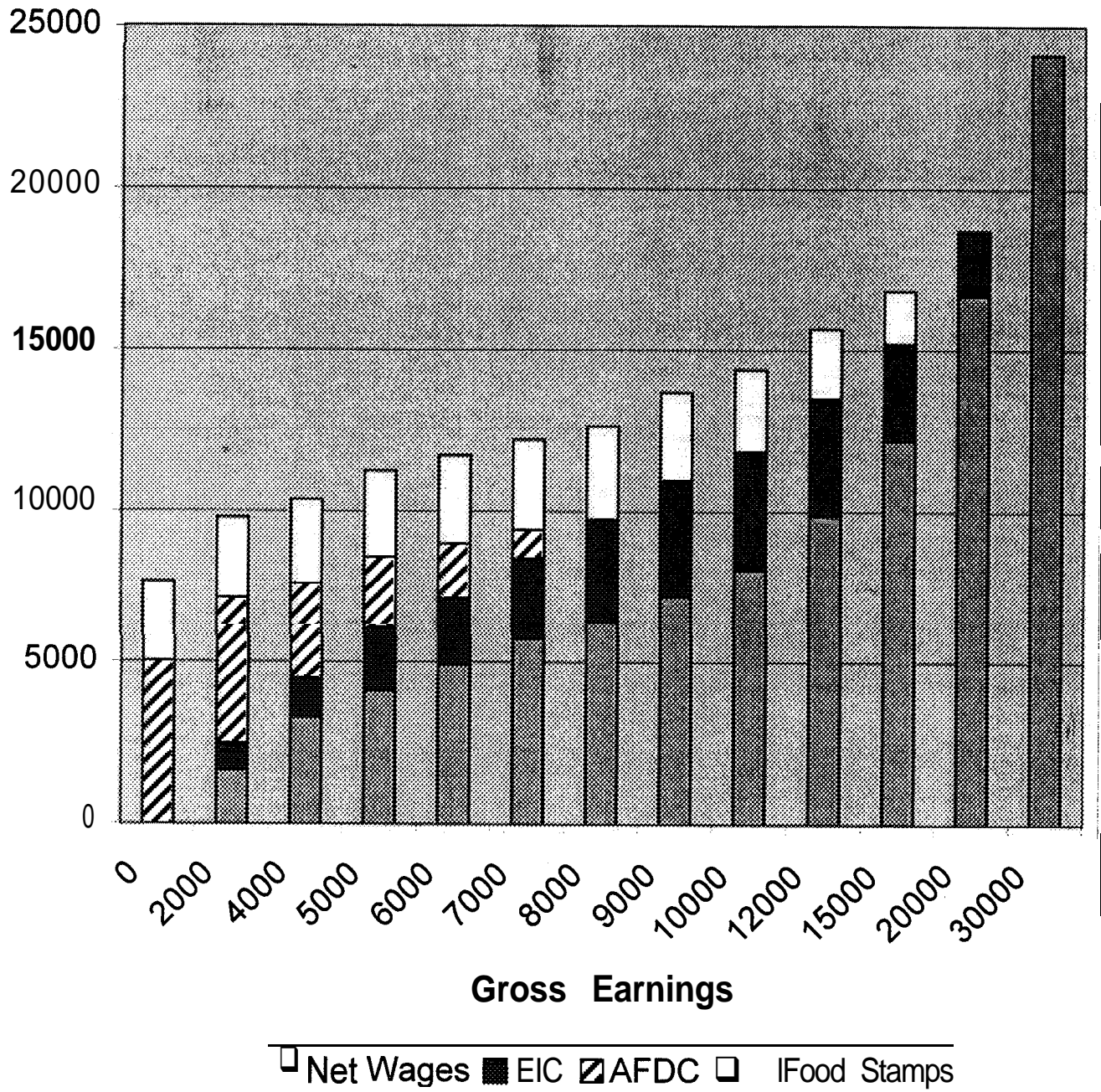
Many observers believe that women leaving welfare may need some assistance for a year or two while their wages are low, but that after a few years, their wages will rise, and they will achieve self-sufficiency. This may not be the case for most welfare recipients. Burtless (1997) shows that between 1979 and 1990, the median real wage of women who had once received welfare rose from \$6.07 to \$6.72 per hour — an increase of about 11 percent over the entire decade. With annual earnings rising (for the median worker) to only 15 percent above the poverty line after 11 years, many women would still have difficulty meeting child care expenses on their own. With such slow expected wage growth, families leaving welfare will not have significantly more resources for child care for the entire period over which their children are young, and they face substantial child care expenses. The obstacles to wage growth are significant. The earnings capacities of these women are low as they enter the labor market, and skill-building programs are not expected to improve their wages substantially.

3. Child Care Costs and Supply

Child care costs are a major work-related expense for mothers of young children, and even more so for low-income working mothers. The most recent data on child care costs are from fall 1993, when it was estimated that the average weekly cost for paid child care for a child under age 5 was \$64, or about \$3,200 per year (Casper 1995). The cost of care varies by type. Care provided

FIGURE II.1

**DISPOSABLE INCOME AT VARIOUS WAGE LEVELS
BEFORE CHILD CARE EXPENSES, MOTHER OF
THREE, PENNSYLVANIA, JANUARY 1997**



Source: Based on calculations by the Congressional Research Service U.S. House of Representatives 1998), pp. 408-409.

by nonrelatives in the child's home was the most expensive at \$68 per week, followed closely by care in centers, preschools: and other organized care facilities at \$64 per week. Family child care (care by nonrelatives in another home) cost approximately \$52 per week, and care provided by relatives (excluding fathers and siblings) cost \$42 per week when they were paid for care.

Child care costs also vary by the age of child, infant care being more expensive than preschool-age care. In 1993, the weekly cost of paid care for an infant was \$72, while for older children it was about \$60 (Casper 1995). Child care expenses increase substantially when the family has more than one child under age 5. Weekly child care expenses for families with one child in 1993 were \$66, while for those with two or more children, weekly expenses were \$110, or about \$5,500 per year.

The issue of the cost of child care may be more difficult for families with a child who has special needs. Children in low-income families are more likely than children in higher-income families to have a physical condition or behavioral problem that requires special attention from caregivers. Often, children with special needs who receive subsidized care are given a larger subsidy to compensate the provider for the additional efforts that must be made to care for this child, which may in turn limit the number of other children she can care for. Low-income parents with a special-needs child who does not receive subsidized care may face even higher child care costs than average.

If we compare the average cost of paid child care to the income of a family with low earnings, we find that child care expenses pose a significant economic burden. In the example involving Pennsylvania in Section 2 above, we showed that mothers earning about \$5 to \$6 per hour, or \$10,000 to \$12,000 for full-time, full-year work, would have disposable income of between \$14,353 to \$15,631. Child care costs of \$4,000 per year for one child would represent 30 to 40 percent of their earnings, or 26 to 28 percent of annual disposable income, assuming the family receives the

EIC and food stamp benefits for which it is eligible. For two children, child care costs of \$5,500 per year would represent 46 to 55 percent of earnings, or 35 to 28 percent of annual disposable income.

Given such costs of care in the market that would require such a large share of the family's disposable income, we find that, in fact, low-income families economize on child care costs by finding free child care when possible. In 1993, only 37 percent of families with income below the poverty line paid for their child care arrangements, compared to 58 percent of families with income above the poverty line (Casper 1995). When free child care is not available, low-income families use lower-cost child care. In 1993, the average weekly cost of paid child care for families with income below the poverty line was \$50, or \$2,500 per year (Casper 1995). But even low-cost child care is expensive for low-income families that do not receive financial assistance for child care. A weekly cost of \$50 represents 21 to 25 percent of earnings and 16 to 17 percent of disposable income for families earning \$10,000 to \$12,000 per year. Moving from hypothetical to actual costs, in 1993, families with income below the poverty line who paid for child care spent an average of 18 percent of their income on child care.

While a large proportion of low-income families do not pay for child care, Hofferth (1995) has found that, among low-income families, the likelihood of paying for child care differs substantially depending on marital status. Low-income single mothers are much more likely than other low-income families to have to pay for child care. Using data from the 1990 National Child Care Survey, Hofferth (1995) estimated the use of paid child care by families with working parents and income below the poverty line (working poor families) and families with working parents and income below 75 percent of the U.S. median (working low-income families, who would be eligible for child care assistance in many states). She found that, while 27 percent of all working poor families and 32 percent of all working low-income families paid for child care, a much higher percentage of working

poor single mothers (44 percent) and working low-income single mothers (69 percent) paid for child care. It is possible that the **difference** is a function of the fact that low-income married couples can arrange their work schedules to economize on child care, but single mothers are less able to similarly coordinate their schedules with another adult, preventing them from economizing on child care. Hofferth (1995) shows that shift work and shared child care among adults is particularly common among lower-income married-couples, allowing these families to avoid using paid child care.

School-age children of working parents may also need child care outside school hours. In 1993, the parents of approximately 22 million school-age children (ages 5 to 14 years) were working or in school (U.S. House of Representatives 1998). In 1993, about 5 percent of the school-age children of working mothers, or 1.2 million, cared for themselves, but researchers believe that the number of children who care for themselves without adult supervision during a typical week is much closer to about 5 million (National Institute on Out-of-School Time 1997). No care arrangement outside school hours was mentioned for 46 percent of the children, or 10.2 million. Some parents may be at home when children are out of school, but other children may return to empty houses, at least for some period in the afternoon. The safety and appropriateness of self-care depends on the child's age and developmental level, characteristics of the neighborhood, and the child's activities during that time (Vandell and Posner, in press).

Many school-age children need some supervision outside school hours if their parents are working, and they will need care during school holidays and vacations. However, very few school-age children are in formal before- and after-school programs. The National Study of Before and After School Programs estimated that, in 1991, 1.7 million children in kindergarten through grade 8 were enrolled in formal programs (Seppanen et al. 1993). The total number of children in those age ranges in 1990 was about 48 million (Hofferth et al. 1991).

Parents and relatives care for many school-age children outside school hours (U.S. House of Representatives 1998). ³ About 18 percent of school-age children are cared for by a grandparent or other relative. About 14 percent are cared for by a parent.

Formal programs may be important in keeping children safe and improving their well-being during the afternoons when school is over. Research has found that low-income children in formal after-school programs have better academic achievement, peer relations, and emotional adjustment than peers in mother care, informal adult supervision, or self-care (Posner and Vandell 1994). Children in formal programs spent more time in academic activities and enrichment lessons and less time watching TV and playing outside unsupervised. In low-income neighborhoods, where informal adult supervision is limited, even older school-age children can be at risk if they are left on their own or in the care of an older sibling outside school hours. Juvenile violent crime rates peak during the afternoon hours when school is over. Initiatives in some communities to change high school daily schedules to coincide with adolescent sleep patterns would begin and end the school day later. This practice may reduce the need for out-of-school care, but would probably not eliminate it.

B. FAMILY CHOICES IN RESPONSE TO PRICES IN THE CHILD CARE MARKET

Several studies have examined how mothers' decisions about work and child care are affected by the price of child care. The price of child care can affect employment because it is a cost of working that reduces the net wage for an hour of work. The cost of child care may also affect child care choices, since some types of child care may be less affordable to the mother. We discuss both of these types of responses in this section.

1. Employment Choices

The cost of child care ⁻²effectively reduces the amount of income a parent can earn from work outside the home. For this reason, child care costs will reduce the likelihood that a parent will work at all. Because the hourly wage net of child care costs is lower than it would be without child care costs and time at home is valuable, child care costs may also reduce the number of hours an employed parent is likely to work.

Although economic theory predicts that child care costs will lead to a reduction in the number of hours an employed parent is likely to work, the size of the response cannot be predicted by theory, but instead, must be estimated using information on the actual child care costs and employment decisions of low-income mothers. Knowing the size of low-income parents' employment responses to child care costs is important if we are to accurately predict what level of investment in child care subsidies would be needed to encourage a particular level of employment activity.

The parent's employment response to an increase in child care prices can be measured in the same way that economists measure individuals' responses to any price change, using the *elasticity*. The elasticity of employment with respect to child care prices is simply a measure of responsiveness of employment to child care prices. The employment response may be measured in terms of the probability that, the parent is employed, hours worked per week, or another measure of the level of employment. The elasticity is the percentage change in this employment measure associated with a particular percentage change in child care costs. For example, if the elasticity of employment with respect to child care costs is $-.20$, then if child care costs increased by 1 percent, the probability of employment would fall by .2 percent. Since a 1 percent change in child care costs would be quite small, it is more common to use a 10 percent change in costs as an example. If child care costs increased by 10 percent, then an elasticity of $-.2$ would imply that the probability of employment

would fall by 2 percent. Economists use percentage changes as the basis for the elasticity to make this measure of **responsiveness** comparable across different markets that use different **units** to measure quantities (for example, hours of work and the number of barrels of oil) and that have different price levels (for example, the monthly cost of child care, which averages about \$200 to \$300, compared to the cost of a dozen oranges, which is about \$6).

The elasticity of employment with respect to child care costs should, theoretically, be a negative number between zero and **infinity**. The number is negative because higher child care costs should decrease employment. If the elasticity were zero, it would mean that an increase in child care costs would leave employment unchanged; there would be no response to an increase in child care costs. If the elasticity were infinity, it would mean that any very slight increase in child care costs would lead to a full reduction of employment to zero. In between these two extremes, an elasticity of one means that the employment response to a change in child care costs is about the same size as the change in costs. That is, a 10 percent change in child care costs would **lead** to a 10 percent reduction in employment. By convention, if the elasticity is *less than one*, so that the percentage change in employment is smaller than the percentage change in child care costs, the response is considered to be *inelastic*, or not very responsive. If the elasticity is *greater than one*, it is considered to be *elastic*, or very responsive.

Empirical studies concur that higher child care costs reduce the likelihood that mothers who have young children will be employed. Most of the earlier studies, following **Heckman (1974)**, focused on the decisions of married women regarding whether to work or not. Most of these studies estimated the elasticity of employment with respect to child care prices at between **-.2** and **-.9** (see Table II.1), which means that the employment response of married women to child care costs is relatively small, or inelastic. For single mothers and low-income mothers, most of the estimates of

elasticity fall in the lower (more inelastic) end of this range. Kimmel (1998) estimates a relatively low elasticity of $-.22$ for single mothers. Kimmel (1995) also estimates an elasticity of $-.3$ for poor single mothers, while GAO estimates an elasticity of $-.3$ for near-poor mothers and $-.5$ for poor mothers. However, Kimmel (1995) also finds a child care price elasticity of employment for poor white single mothers of -1.362 , which implies a much larger response of employment to child care costs than was measured in other studies. This estimate suggests that a 10 percent increase in child care costs would reduce employment by about 14 percent.

Kimmel (1998) finds that estimates of the-price elasticity of employment are very sensitive to specification and model selection. Most studies do not include actual child care costs for mothers who are not working, so the child care costs they would face if they decided to work have to be estimated using information on child care costs for mothers who are working and paying for child care. Similarly, non-working mothers in the sample do not have an actual wage that can be used to estimate the relationship between employment and child care costs, and so these wages must be estimated using information on the wages for mothers who are working. The specification of the equations used to estimate child care costs and wages for mothers who are not working and procedures for correcting for sample selection may vary, leading to different results. Studies may also use different specifications for the final regression relating employment to the price of care. Estimates of the elasticity of employment with respect to child care costs for low-income mothers are particularly sensitive to specification and model changes because a smaller proportion of low-

TABLE II. 1

ESTIMATED EFFECT OF CHILD CARE PRICES ON EMPLOYMENT DECISIONS

Study	Data Source	Population Studied	Measure of Employment	Measure of Child Care Prices	Estimated Elasticity of Employment with Respect to Child Care Prices
STUDIES OF MARRIED MOTHERS WITH PRESCHOOL- AND SCHOOL-AGE CHILDREN					
Blau and Robins (1988)	1980 Employment Opportunity Pilot Projects (EOPP)	Married mothers with a child under age 14 years	Employment (yes or no)	Average cost of child care in the site, estimated using families with expenditures	-.34 (average of individual values)
Connelly (1992)	1984 Survey of Income and Program Participation, Wave 5	Married mothers with a child under age 13 years	Labor force participation (yes or no)	Child care expenditures for all children in family; estimated using families with expenditures	-.20 (estimated at the means)
Ribar (1995)	1984 Survey of Income and Program Participation	Married mothers with a child under age 15 years	Work full-time, part-time, or zero hours	Child care expenditures for all children in family; estimated using families with expenditures	-.09 or -.07 (children under 15) -.09 or -.02 (children under 6) (estimated at the means)
Michalopoulos et al. (1992)	1984 Survey of Income and Program Participation	Mothers with a child under age 15 years; Separate estimates for married and single mothers	Hours of work (workers only)	Child care expenses (families with positive expenses only)	-.0018 for married mothers -.0014 for single mothers
Kimmel (1998)	1987 Survey of Income and Program Participation	Married mothers with a child under age 13 years; Separate estimates for married and single mothers	Employment (yes or no)	Total hourly cost of child care for youngest three children; estimated using families paying for child care	-.92 for married mothers -.22 for single mothers (estimated at the means)

Study	Data Source	Population Studied	Measure of Employment	Measure of Child Care Prices	Estimated Elasticity of Employment with Respect to Child Care Prices
STUDIES OF MARRIED WOMEN WITH PRESCHOOL-AGE CHILDREN					
Ribar (1992)	1984 Survey of Income and Program Participation, Wave 5	Married mothers with a child under age 6 years	Employed (yes or no)	Child care expenditures for three youngest children in family; estimated using families paying for child care	-.74 (estimated at the means)
Averett et al. (1997)	1986 National Longitudinal Survey of Youth	Married mothers with a child under age 6 years	Hours of work	Total hourly cost of child care for family; estimated using families paying for child care	-.78 (estimated at the means)
Blau and Hagy (1998)	1990 National Child Care Survey (NCCS) 1990 Profile of Child Care Settings (PCS)	Married and single mothers with a child under age 7 years and not in school	Employment (yes or no)	For centers and family child care: estimated from providers' fees in PCS; For other nonparental care: estimated from family expenditures in NCCS	-.20 (estimated as the average of individual estimates)
Leibowitz et al. (1992)	National Longitudinal Survey of Youth (several waves)	Women who had a first child after 1979 and before 1986; children under age 2 years	Employment (yes or no) at 3 months and 24 months after birth of first child	Child care costs after state and local tax credits for child care; Estimated at the woman's income level if she works full-time at her predicted wage	Larger child care tax credit led to earlier return to work (by 3 mos. after birth) but little effect on employment at 24 months

Study	Data Source	Population Studied	Measure of Employment	Measure of Child Care Prices	Estimated Elasticity of Employment with Respect to Child Care Prices
STUDIES OF LOW-INCOME MOTHERS					
GAO (1995)	1990 National Child Care Survey and Low-Income Sub-Study	Married and single mothers with children under age 13 years; Separate estimates for poor, near-poor, and non-poor mothers	Employment (yes or no)	Total child care expenditures by family; estimated based on families paying for child care	-.50 for poor mothers -.34 for near-poor mothers -.19 for nonpoor mothers
Kimmel (1995)	1987 and 1988 Survey of Income and Program Participation	Single mothers with children under age 15 years; Income below poverty	Employment (yes or no)	Total hourly cost of child care for youngest three children; estimated using families paying for child care	-.346 for poor single mothers -1.362 for poor white single mothers -.345 for poor black single mothers
Berger and Black (1992)	Telephone survey of single mothers eligible for and participating in child care subsidy programs in Louisville, KY	Single mothers with children under age 13 years; Income below 80 percent of state median family income	Employment (yes or no) Hours worked	Actual child care prices paid by families compared to subsidized prices paid by families receiving subsidy	Child care subsidies increase employment by about 12 percent; no effect on hours worked

SOURCE: Adapted from Council of Economic Advisers (1997), Appendix I: The Effect of Child Care Prices on Maternal Employment. Source for each row of the table is indicated in the first column.

income mothers are employed, and therefore, there is less information on wages and child care costs available to predict **wages and** child care costs for low-income, non-working mothers. **Kimmel** concludes that the research has placed a reasonable bound on the child care price elasticity of employment for married mothers, but for single mothers, there is more uncertainty about the size of the response.

More research is needed to understand the employment response of low-income mothers to child care costs, particularly in the new welfare environment, where welfare is not a viable alternative to working over the long term. Connelly (1992) notes that employed mothers in her sample are mothers who are more likely to have free child care available to them. Under welfare reform, more mothers will have to work, whether or not free care is available. Moreover, because welfare reform time limits and work requirements apply to everyone, fewer relatives may be available to provide free or low-cost child care for mothers who work. Do relatives try to arrange their work hours to enable them to share child care responsibilities as low-income married couples often do, or must families rely more on nonrelatives to care for their children? Are there differences by ethnicity in the ability of families to use relatives as child care providers under welfare reform? Finally, most studies have examined only the decision to work or not, but decisions regarding hours of work are also important. More research is needed to understand whether child care costs affect hours of employment.

Based on data from the National Child Care Survey 1990, a parent survey of child care arrangements, Hofferth and Collins (1997) examined how the cost, stability, and other features of child care arrangements affect employment exits for mothers with a child under age 13. Hofferth and Collins used data from the Profile of Child Care Settings, a survey of regulated child care

providers that was a companion study to the National Child Care Survey, to construct the market cost of center-based and family child care in each family's geographic area. They found that local costs of licensed and regulated child care affected the employment exits of women with moderate wages, but not low wages.² The authors hypothesize that low-wage women have found child care that costs much less than the market rates for centers and regulated family child care, so the high cost of these types of child care in their area does not affect their employment decisions. Hofferth and Collins (1997) also found that mothers earning low and moderate wages who also use more than one child care arrangement had a very low probability of a work exit if their arrangements for child care came to an end. The authors suggest that, compared with a single child care arrangement, multiple arrangements provide some additional flexibility for mothers who earn low and moderate wages.

Connelly (1992) finds that parents of school-age children are less likely to pay for child care than are mothers of younger children, but that when they pay, they pay higher amounts, on average. This may be attributable to the high cost of part-time child care. It is also possible that parents generally may be willing to pay for school-age child care only when it is of good quality; they may be unwilling to pay for custodial care for this age group when the children can care for themselves or be cared for by siblings for free. Much more research is needed on parents' preferences regarding school-age child care and the effects of its costs on the employment of low-income mothers. Perhaps school-age child care costs affect job choices by making work schedules much less attractive if they conflict with the child's time out of school. Or the parent may leave the school-age child unsupervised for a few hours each day but may lose time from work or leave the job if it becomes clear that the child is unsafe in that arrangement and alternative acceptable arrangements are too expensive.

2. Child Care Choices

Most of the empirical studies that have examined the effects of cost on the choice of child care arrangement have considered only the distinction between paid and unpaid child care. These studies have generally estimated a low elasticity of child care choice to price (see Table 11.2). For married mothers, the estimated elasticity of choosing paid child care with respect to the price of care ranges from $-.2$ to $-.3$ in most studies, meaning that an increase in child care costs of 10 percent would decrease the probability of choosing paid child care by 2 to 3 percent. On the high end, Ribar (1992) and Ribar (1995) estimate this elasticity as $-.7$, $-.5$, and -1.86 . None of these studies focused specifically on low-income women, although Michalopoulos et al. (1992) estimate the elasticity for single mothers of all income levels at $-.3$. Ribar (1995) finds relatively large price elasticities of choosing paid care among married women with school-age children ($-.7$ or $-.5$, depending on the specification), while his estimated price elasticities of choosing paid child care for women with children under age 6 are similar to those in other studies ($-.2$ or $-.3$, depending on the specification).

The distinction between paid and unpaid child care may not be as important to parents as differences in the type of child care (center-based or home-based) or whether or not the child care provider is related to the parent. Parents' choices of child care may be more usefully viewed as selecting a type of child care that has a particular probability of being free, and an average cost if it is not free. These price characteristics are balanced against variations with respect to several other attributes (for example, the number of children, whether it is home-based or center-based, and whether the provider is related to the child). Therefore, the approach in most studies, which is to characterize the parents' choice as between paid and unpaid care, seems very limited. In a departure

TABLE II.2

ESTIMATED EFFECT OF CHILD CARE PRICES ON CHILD CARE CHOICES FOR WORKING MOTHERS

Study	Data Source	Population Studied	Types of Child Care	Measure of Child Care Prices	Estimated Elasticity of Choice with Respect to Child Care Prices
STUDIES OF MARRIED WOMEN WITH PRESCHOOL- AND SCHOOL-AGE CHILDREN					
Blau and Robins (1988)	1980 Employment Opportunity Pilot Projects (EOPP)	Married mothers with a child under age 14 years	Market child care (positive price of care by nonrelative or group care)	Average cost of child care in the site, estimated using families with expenditures	-.34 (average over range of child care costs analyzed)
Ribar (1995)	1984 Survey of Income and Program Participation	Married mothers with a child under age 15 years	Paid child care	Child care expenditures for all children in family; estimated using families with expenditures	-.7 or -.5 (children under 15) -.3 or -.2 (children under 6)
Michalopoulos et al. (1992)	1984 Survey of Income and Program Participation	Mothers with a child under age 15 years; Separate estimates for married and single mothers	Paid child care	Child care expenditures for families with positive expenditures	-.205 for married mothers -.298 for single mothers
STUDIES OF MARRIED WOMEN WITH PRESCHOOL-AGE CHILDREN					
Ribar (1992)	1984 Survey of Income and Program Participation, Wave 5	Married mothers with a child under age 6 years	Paid child care	Child care expenditures for three youngest children in family, estimated using families with expenditures	-1.86 (estimated at the means)

Study	Data Source	Population Studied	Types of Child Care	Measure of Child Care Prices	Estimated Elasticity of Choice with Respect to Child Care Prices
Blau and Hagy (1998)	1990 National Child Care Survey 1990 Profile of Child Care Settings	Married and single mothers with a child under age 7 years and not in school	Paid child care Center care Family child care Other nonparent care	For centers and family child care: estimated from providers' fees in PCS; For other nonparental care: estimated from family expenditures in NCCS	-.34 for paid child care -.24 for center care -.34 for family child care -.12 for other nonparental care
Hofferth and Wissoker (1992) Chaplin, Hofferth and Wissoker (1996)	1985 National Longitudinal Survey of Youth	Mothers with a child under age 6 years and use nonmaternal care	Center care Home-based care by nonrelatives Relative care Father care	Amount paid for child care arrangement by families paying for care	No elasticities provided, but: If cost of center care declines by 10 percent, use increases by 17.2 percent If cost of home-based care declines by 10 percent, use increases by 2.9 percent If cost of relative care declines to zero, use increases by 11.1 percent

SOURCE: Adapted from Council of Economic Advisers (1997), Appendix 2: Effect of Child Care Price on Use of Market Care, Given Maternal Employment. Source for each row of the table is indicated in the first column.

from this usual approach, Blau and Hagy (1998) provide estimates of the price elasticity of various choices of child care by ²type. For center-based care, they estimated a price elasticity of $-.24$; for family child care, the estimated price elasticity was $-.34$; while for other nonparental care, the estimated price elasticity was $-.12$. Thus, we would expect that as the price of center-based or family child care fell, more families would choose these types of care, but the response would be very small.

¹Dollar amounts are adjusted for inflation to 1993 dollars.

²Low-wage mothers are defined as those who are predicted to earn less than \$6 per hour, which would provide income at about the poverty line for a family of four if the woman worked full-time, year-round in 1990. Moderate income is defined as potential earnings of \$6 to \$8 per hour, which would translate into earnings between 100 and 133 percent of the poverty line for full-time, full-year work in 1990.

III. CHILD CARE POLICIES AND THEIR EFFECTS ON FAMILIES' CHOICES

The government has several policy tools to make child care more affordable for low-income families, thereby helping them to obtain the child care they prefer and supporting their work activities. Child care subsidies are perhaps the most important policy tool affecting the child care choices and employment decisions of low-income families. The government may also support consumer education programs that provide parents with information about how to **find** good-quality, reliable, and flexible child care options that can best support their employment. Providing such information helps to reduce search costs for families, thus helping them find child care that more nearly meets their preferences at a price they are willing to pay. Nevertheless, consumer information cannot be as effective a policy tool if families are not also given the resources to pay for the types of care they are seeking. We discuss how subsidy and information policies affect decisions about child care and employment, and we consider what is known about the optimal design of such policies.

A. CHILD CARE SUBSIDIES AND THE COST OF CHILD CARE

Child care subsidies are intended to reduce the cost of child care, thus increasing the incentive to work because low-income families can retain more of their earnings. The employment decision in its simplest form is a decision to allocate time between work and leisure. The individual prefers leisure time, but by working, can earn money to pay for other goods and services he or she also wants. The price of an hour of leisure is what the individual would earn by working for that hour. Therefore, higher net earnings make work relatively more rewarding and the price of leisure relatively higher. This price effect will thus lead the individual to spend more time working.

However, -if the net hourly wage is higher, the individual will have higher income even without working a greater number of hours, and will use the additional income to purchase more of what he or she wants, including leisure time. This leads to a tradeoff, with the individual deciding whether to work an additional hour by balancing the attractiveness of earning the higher net wage for this hour against the desire to put some of that higher income toward more leisure time. Thus, the income effect of an increase in the wage attributable to child care subsidies will lead the individual to work somewhat less than in the absence of the subsidy. The empirical studies cited in the previous chapter estimate that the net effect of the income and price effects of an increase in subsidies is to increase the employment of low-income women.

In addition to increasing the net wage from employment by reducing the cost of child care generally, subsidies are also designed to help low-income parents choose the types and quality of child care that they prefer by reducing the prices of child care. If families are able to use a more preferable type or quality of child care, they may be more comfortable working.¹

Policies defining eligibility for subsidies, setting sliding fee schedules (the amount parents must contribute to the cost of child care, which depends on income), and setting maximum payment rates to providers determine the extent to which subsidies create sufficient work incentives and make more preferable child care options available to low-income parents. A study of state child care subsidy policies prior to Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) showed that policies varied widely across states (Ross 1996), and policies have not converged a great deal since that time (National Child Care Information Center 1998). States set very different income eligibility limits and sliding fees, meaning that families with the same income in different states received very different subsidies and faced very different child care costs. States also set different maximum payment rates, or the maximum level of reimbursement they would pay a provider for

child care. Yet, while the specific levels of income eligibility limits, sliding fees, and maximum payment rates vary across the states, these three basic elements provided a similar fundamental structure for the child care policies in almost every state.

If we understand better how child care costs affect families' employment and child care choices, it may be possible to provide some guidance to states about the optimal design of child care subsidy program rules, given a particular level of funding for child care assistance. This section discusses each of the three major child care program elements and how it might affect parents' employment and child care choices. We also discuss factors affecting families' decisions to participate in child care subsidy programs for which they are eligible, including administrative rules and rules for covering unlicensed, home-based child care.

1. Income Eligibility for Child Care Subsidies

Income eligibility limits determine, in a very basic way, who may receive subsidies. The regulations for CCDBG allow states to define any income limit up to 85 percent of state median income. Most states use a lower income eligibility limit – 50 percent to 65 percent of state median income is most common (National Child Care Information Center 1998). States have set lower income eligibility limits in order to concentrate scarce child care resources on the most needy families.

Income eligibility limits ensure that child care assistance goes to the most needy families. However, research on the employment responses to child care costs, summarized in the previous chapter, indicates that mothers are responsive to child care costs throughout a range of family incomes, although the estimated responses for low-income mothers are quite variable. Research has not clearly established that any particular low- to moderate-income group might have a particularly

strong employment response to child care assistance, so we do not know if there would be a substantial payoff to **investing** child care resources in one group versus another. As a result, the optimal income eligibility cutoff may be dictated more by equity considerations — that is, focusing scarce resources on the most needy families — or by identifying a population, defined by income, that the public is most interested in encouraging to work. Further research is needed to measure more definitively the employment responsiveness of low-income mothers to child care costs, and thus to determine whether there is also an efficiency argument for focusing scarce child care assistance on lower-income families.

Policymakers must keep in mind that income eligibility limits interact with the optimal structure of sliding fees, in terms of both incentives to families and costs to the state for subsidies. We discuss these issues more fully in the next subsection.

2. Sliding Fees

Families receiving child care subsidies are generally required to contribute to the cost of child care. This fee ensures that parents begin making a transition to paying their child care expenses as their incomes rise, since sliding fees generally increase with family income. The sliding fee can be analyzed as a tax — both may be either proportional or progressive. The regulations for CCDBG suggest that fees be set at 10 percent of family income, which would be proportional, except that the regulations also allow states to waive fees for families with income at or below the poverty line (*Federal Register*, July 24, 1998). In practice, many states set relatively low sliding fees over the initial range of incomes and then increase fees more steeply as income rises, which is a progressive structure (National Child Care Information Center 1998). The reason for this structure is to minimize a notch in the individual's budget constraint relating hours of work to disposable income.

A notch would occur if child care policy provided a relatively large benefit that disappeared completely when income **reached** the eligibility limit. A notch would create a disincentive to work.

In the discussion that follows, we describe the variety of ways in which states have structured their sliding fee scales, how the structure of sliding fees can **affect** employment and child care choices, and how parents are affected by state policies regarding whether providers may charge a co-pay in addition to the sliding fee.

a. The Structure of Sliding Fee Scales in the States

In most states, the sliding fee is a dollar amount or a percentage of income that does not depend on the type of child care chosen. As a result, the price of each type of child care becomes the same (unless the price of an option is zero), so parents receiving a child care subsidy may choose the type of child care they most prefer. Parents receiving a subsidy would be likely to choose a different mix of child care arrangements relative to what they would have chosen in the absence of a subsidy. With a subsidy, parents would be likely to choose a larger proportion of more expensive arrangements because they can afford them.

Some states set sliding fees that are based not only on income level but also on the cost of child care. Thus, rather than setting the fee as a dollar amount that increases with income, or a percentage of income, the fee may be a percentage of the cost of child care chosen by the parents, and this percentage may increase with income. Fees based on the cost of child care give parents some help in paying for child care but do not distort relative prices of child care arrangements. Therefore, we would expect parents to make child care choices that are more similar to the choices they would have made in the absence of a subsidy. Although child care generally has been made less expensive by this type of subsidy, families still face the price variation across different types of child care that

existed prior to the subsidy. States using this form of sliding fee are likely to find that the cost of subsidies per family is **lower** compared to what it would be if sliding fees were based only on **family** income and not on the cost of care. However, no studies have examined how these fee structures affect parents' choices of child care and the resulting effect on state subsidy costs.

Sliding fee scales vary considerably across states, although their general pattern is similar (National Child Care Information Center 1998; Ross 1996). Some states have set relatively low fees throughout the range of eligible incomes, particularly if the income eligibility limit is sufficiently low that all of the families receiving child care assistance have income close to or below the poverty line. Other states have relatively steep fee schedules, so eligible families with more income are paying most of the cost of child care. In 1994, for example, the sliding fee for a family of three with one child in child care in Mississippi ranged from \$4.20 a month for a parent working full-time at the minimum wage to \$25.20 for a parent with income at the poverty line (see Table 111.1). in Nebraska, the corresponding fees were \$27 and \$157, respectively. While many states have changed their sliding fee scales since 1994, the major points made here about how states set sliding fees are still valid.

b. Implications of Sliding Fee Scales for Employment Decisions

Although it is generally true that child care assistance provides an incentive to work by increasing the parent's net earnings, the design of the sliding fee schedule can introduce a disincentive. This disincentive can occur at least over some income ranges if the rate of increase of sliding fees is high over that range of family incomes, or if a notch occurs, so that a relatively large benefit is lost when the family's income reaches the eligibility limit. When sliding fees increase very quickly as

TABLE III. 1

MONTHLY FEES BY STATE IN 1994 FOR AT-RISK AND CCDBG PROGRAMS
FOR A FAMILY OF ³THREE WORKING FULL-TIME WITH ONE CHILD IN CARE --
DIFFERENCES BY INCOME

State	Full-Time Minimum Wage (\$737 per month)	100 Percent of Federal Poverty Level (\$ 1,026 per month)	150 Percent of Federal Poverty Level (\$1,539 per month)
Alabama	21.5	43.00	NA
Alaska	7.74	7.74	NA
Arizona	21.50	NA	NA
Arkansas	0.00	51.60	NA
California	43 .00	43 .00	60.20
Colorado	54.00	109.00	NA
Connecticut	5.16	10.32	15.48
Delaware	25.80	41.28	NA
District of Columbia	12.90	64.50	141.90
Florida	8.60	8.60	98.90
Georgia	55.90	90.30	141.90
Hawaii	0.00	0.00	25.20
Idaho	0.00	12.90	116.10
Illinois	1.08	1.08	78.00
Indiana	0.00	0.00	129.00
Iowa	0.00	NA	NA
Kansas	24.00	69.00	223.00
Kentucky	7.53	48.38	NA
Louisiana	12.90	25.80"	180.60"
Maine	36.85	82.08	153.90
Maryland	0.00	0.00	NA
Massachusetts	8.60	77.40	172.00
Michigan	12.90	12.90	12.90
Minnesota	0.00	0.00	56.00
Mississippi	4.20	25.20	82.50
Missouri	10.75	21.50	NA
Montana	10.00	NA	NA
Nebraska	27.00	157.00	NA
Nevada	12.90	38.70	154.80
New Hampshire	1.08	1.08	2.15
New Jersey	52.39	66.68	128.60
New Mexico	1 .00	25.00	100.00
New York (NYC)	0.00	21.50	129.00
New York (Suffolk Co.)	1 .00	1.00	63.45
North Carolina	24.73	64.50	NA
North Dakota	51.60	129.00	129.00

TABLE III. 1 (continued)

State	Full-Time Minimum Wage (\$737 per Month)	100 Percent of Federal Poverty Level (\$1,026 per month)	150 Percent of Federal Poverty Level (\$1,539 per month)
Ohio	15.00	NA	NA
Oklahoma	21.00	91.00	NA
Oregon	10.00	81.00	291.00
Pennsylvania	5.00	10.00	25.00
Rhode Island	21.50	25.80	73.10
South Carolina	20.64	38.70	38.70
South Dakota	25.80	25.80	NA
Tennessee	21.50	21.50	NA
Texas	66.33	92.34	138.51
Utah	0.00	0.00	252.00
Vermont	0.00	7.74	154.80
Virginia	18.43	51.30	115.43
Washington	1.00	1.00	179.50
West Virginia	2.15	32.25	NA
Wisconsin	0.00	27.00	68.00
Wyoming	51.60	86.00	NA
Minimum (several states)	0	0	2.15
Maximum (Georgia, Texas, Nebraska, Oregon)	66.33	157.00	291.00

SOURCE: Survey of State Child Care Program Rules, **Mathematica** Policy Research, Inc., 1994

NOTE: The calculations are based on a family of three with one parent working full-time (eight hours per day, five days per week) and one child. For sliding fees that depend on the cost of child care, we assume a cost of \$1.50 per hour.

“Louisiana did not offer the At-Risk Child Care program at the time of the survey.

NA = not available. Family is not eligible for the program at this income level.

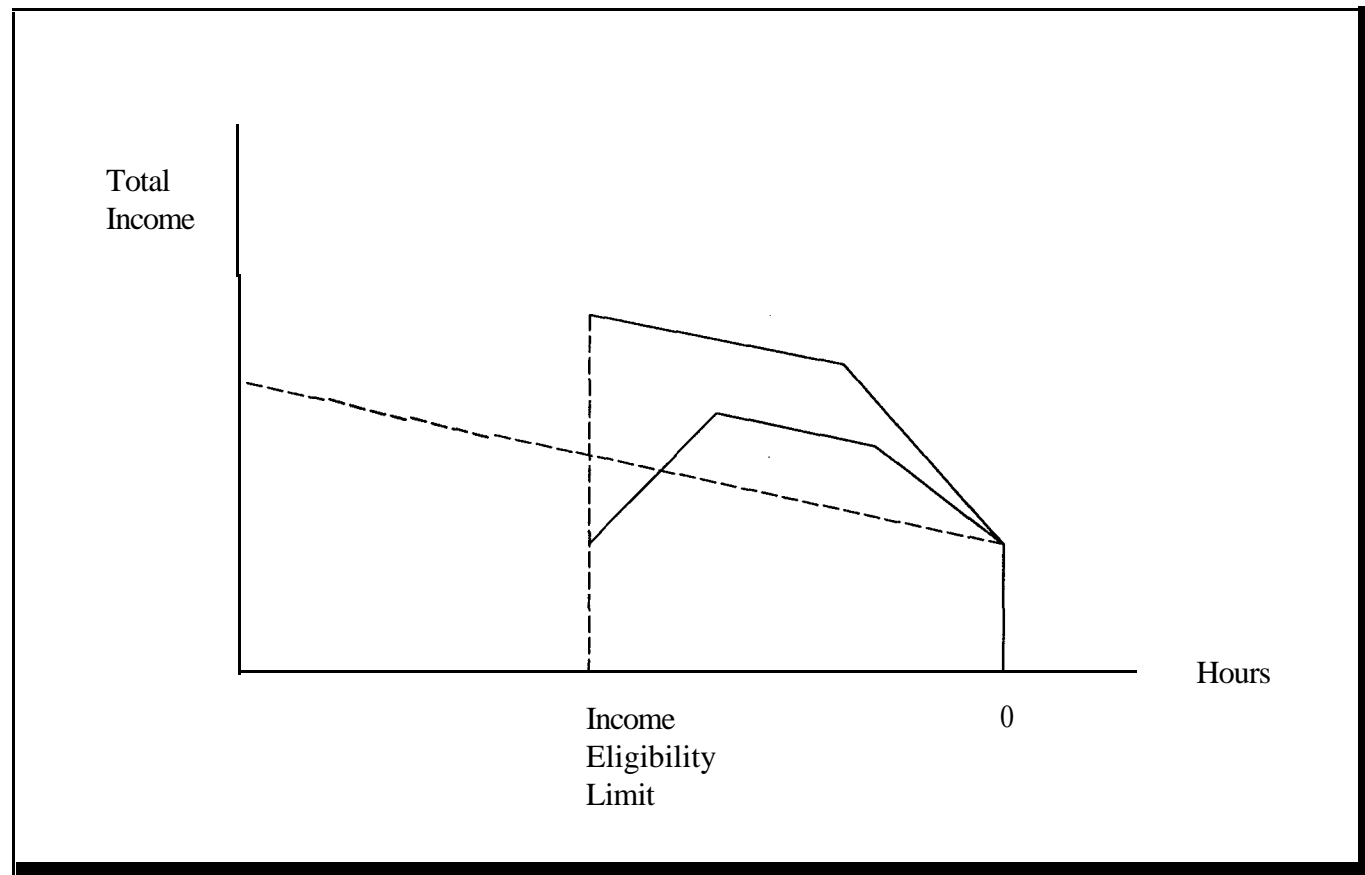
family income rises, parents may choose to work fewer hours or turn down a job offer at a higher wage because their disposable income (after child care expenses) does not adequately compensate them for the extra work.²

Implicit in sliding fees that go up at increasing rates over the range of family incomes is a tax on higher earnings, which may create a notched budget constraint for the individual, as discussed by Burtless and Hausman (1978) and Hausman (1981) and pictured in Figure III. 1. Individuals choosing hours of work to maximize utility over this nonlinear budget constraint will tend to avoid the notches. Individuals with a relatively greater preference for work will tend to work more hours when they approach this notch, while those with a relatively lower preference to work would tend to work fewer hours as they approach this notch.

Figure III.1 shows two hypothetical budget constraints for individuals living in states with different sliding fee schedules. The figure shows how total family income varies with hours of work. The parent is working zero hours furthest from the origin and as many hours as possible closer to the origin. The dashed line shows the parent's income after child care costs without any child care assistance. The two solid lines show the parent's income after child care costs under different sliding fee schedules. The highest budget constraint illustrates a sliding fee schedule that pays most of the family's child care costs throughout the eligible income range but then withdraws all support when the family becomes ineligible. This illustrates the child care "cliff" discussed in the welfare and child care literature. The family experiences a sharp drop in income as work hours increase by a small amount because of the loss of child care assistance. The second state tries to avoid creating a child care cliff by increasing sliding fees more quickly as the parent approaches the income eligibility limit. However, fees increase by such a large amount that the parent is better off leaving

FIGURE III. 1

HYPOTHETICAL BUDGET CONSTRAINTS FOR FAMILY INCOME AFTER CHILD CARE COSTS,
STATES WITH DIFFERENT SLIDING FEE SCHEDULES



the subsidy program and paying for child care on her own just before she reaches the income eligibility limit. This budget constraint also includes a notch, but at a different hours/income point than was true of the first state.

The important fact about sliding fee scales that create notched budget constraints is that they can create strong work disincentives for people with a weak attachment to the labor force. For the mother in the first state, the disincentive to work is strong in that not working ensures that her income remains below the eligibility limits for the child care program. She is actually much better off with income below the eligibility limit than with income above the limit over quite an extensive range of hours. The work disincentive seems to be the greatest potential problem when sliding fees are very low throughout the eligible income range, income eligibility limits are low, and unsubsidized child care costs are high.

c. Provider Co-Payments in Addition to Sliding Fees

Provider co-payments are additional charges to parents over and above the maximum payment rate, which includes the sliding fee providers receive from parents and the subsidy amount providers receive from the state agency. States vary in their use of this practice. Some states prohibit it because they do not want providers to take advantage of parents receiving subsidies. Their rationale for this position is that they have set a sliding fee that they believe is the maximum amount parents can afford to pay, and a maximum payment rate that they believe is a fair market rate. Thus, there should be no reason for providers to charge more, and parents should not be able to afford more. Other states do not prevent providers from charging additional fees, viewing this practice as a reasonable private transaction between parent and provider. The rationale for this position also may be that states believe that this practice appropriately addresses the problem of not being able to

determine exactly what each family can afford to pay or what the fair market price is for child care from each provider.

When states permit providers to charge parents a “co-pay” over and above the sliding fee, the cost of some child care options may be higher than state planners realize as they set sliding fees, particularly if maximum payment rates are set below market rates for many child care options within a reasonable geographic area for the parent. (We discuss maximum payment rates in more detail in the next subsection.) If the state does not permit providers to charge parents a co-pay, and maximum payment rates are low relative to child care market rates, many child care options may be unavailable to parents receiving a subsidy.

3. Maximum Payment Rates

States set maximum payment rates to limit the amount they are obligated to pay for subsidized care. PRWORA calls for states to set payment rates that are high enough so that families receiving subsidies have the same access to child care services as do families not receiving subsidies. To ensure this equal access, the regulations for the CCDBG call for states to conduct biennial market rate surveys and to set adequate payment rates — recommended to be set at the 75th percentile of local market rates — based on the market rate survey (*Federal Register*, July 24, 1998). The 75th percentile rate fully covers fees charged by 75 percent of the child care providers in the category that states define (for example, infant care in centers) in a child care market. Fees set at the 75th percentile rate give parents a very broad range of providers to choose from, or equal access as required by PRWORA. About half of the states set their payment rates at the 75th percentile, although most states do not conduct market rate surveys annually (National Child Care Information Center 1998).

Maximum payment rates typically vary by the category, or type, of care (center-based, home-based, and in-home care) and by the ages of children (infants, toddlers, preschool-age, and school-age) to reflect differences in the market rates for these ‘different types of care. States may also set higher market rates for certain types of care that they want to encourage but that may cost more to provide — for example, child care in accredited centers or during nonstandard work hours. These higher payment rates give low-income parents access to types of child care that tend to be more expensive and more scarce.

In states using a statewide limit rather than a set of local market rates, providers and parents have raised concerns that payment rates are typically below the customary charges for providers in urban areas.³ This may also occur when states set payment rates substantially below the 75th percentile rate. In response, providers will often refuse to serve children receiving a subsidy because they cannot obtain a full fee for these children. Many states allow providers to charge parents a co-pay in order to give parents and providers more flexibility and more options.⁴ For instance, parents and providers can negotiate a payment that may enable families receiving subsidy to use center-based care or family child care from professional providers because they agree to pay the provider’s normal fees. On the other hand, the combination of statewide rates and a co-pay may put a disproportionate burden on parents in urban areas, where child care costs can be very high.

4. Administrative Factors Affecting Participation in Subsidy

A family’s decision to participate in a child care subsidy program depends partly on family circumstances and partly on program rules and administrative factors. Family factors that affect participation include financial issues, such as income relative to expected child care costs, and nonfinancial issues, such as the cost of the stigma associated with participation. Program rules include such issues as the level of sliding fees and maximum payment rates compared to the market

cost of child care, as discussed in the previous sections. Administrative factors can affect the level of participation by reducing the transactions costs of participating or choosing providers and search costs involved in obtaining and using a subsidy.

Data gathered by ACF from the states provide a rough picture of participation in welfare-related child care programs across states and age groups in 1994 (Administration for Children and Families 1996). According to these sources, child care program participation varies substantially across states, which underscores the importance of program factors like funding levels, differences in program rules, and administrative factors that reduce the search and transactions costs associated with subsidies. Very little is known about the factors affecting participation in child care subsidy programs primarily because of a lack of data on eligible and participating families and on the state administrative practices affecting those families. Moreover, the state reports to ACF of child care program participation are missing information from some states, and contain inconsistent or non-comparable information from other states. Much work needs to be done with administrative data systems in some states so that we can obtain information on child care program participants nationwide that can help improve policy. This section focuses on the major types of administrative practices and rules that can affect participation in subsidy programs.

a. Reducing Transactions Costs of Participating

Child care subsidy programs can be implemented in ways that reduce the transactions costs to participating families. Simplifying access to child care and reducing stigma can be accomplished through policies that address (1) where families can apply for assistance, (2) outreach to parents to inform them about availability of assistance, (3) application and payment procedures, and (4) assistance in linking families with providers.

One way to provide convenient, equitable access to the child care assistance system is to locate the places to apply for **child care** assistance close to the homes of families likely to apply. If convenient access requires that multiple offices accept applications for child care assistance, these offices should be linked by computer so that families may apply in a single place, and child care slots can be allocated fairly among all who apply.

In some cities, a significant portion of child care assistance is provided through contracts to providers for child care slots. All providers determine eligibility, but they do so only for their own slots. While this system lets parents apply for child care assistance in their neighborhoods, they must also apply in many places to improve their chances of obtaining a single subsidized slot. This system is costly for families, especially when their time is limited by employment.

Most cities, facing limited budgets for administrative expenses associated with child care assistance, try to designate a single office as the point of entry for child care assistance. This strategy allows families to apply in one place, so that they will know where to go for re-certification or to apply for child care assistance programs in the future. However, the only office may be inconveniently located for many families, increasing transactions costs of applying for assistance.

Outreach designed to inform parents about the availability of child care is a basic requirement of simple, equitable access to scarce subsidies. However, many states do little to reach out to families because funding is scarce and staff dislike turning applicants away. Most localities had little difficulty filling new child care slots that became available in FY 1992 and 1993, the last time child care funding increased substantially. Not long after the money became available, waiting lists began to form and turnover was very slow.⁵

Another administrative practice that promotes easy access to child care programs is a simple application that covers all child care programs.

b. Rules Regarding Use of Unregulated Family Child Care

Many states allow home-based child care providers caring for small numbers of children to operate without oversight by child care licensing and regulatory authorities, which leaves many providers operating legally without regulation. However, if unregulated providers are to offer care for children receiving subsidy, they may have to meet some minimal criteria. States have very different rules regarding what criteria must be met by providers that offer home-based child care for children receiving subsidized care, and these rules can have an important impact on the types of child care used by families receiving a subsidy. Under CCDBG regulations, states must have requirements designed to protect the health and safety of children in care that apply to all providers that serve children who receive subsidies. Health and safety rules must cover immunizations, the building and other physical premises, and minimum health and safety training that is appropriate to the provider setting. In practice, these rules may lead some relatives and neighbors to refuse to participate in the subsidy system, and parents would then have to decide whether to participate in the child care subsidy system by choosing a different provider or to remain with this provider and not participate in the subsidy program. The rules also require that health and safety regulations not interfere with parental choice by effectively excluding any category of care or type of provider (*Federal Register* July 24, 1998). However, state administrators indicate that rules regarding health and safety and methods of paying unlicensed and unregulated home-based providers have a large impact on patterns of child care use by families receiving subsidies. If state rules regarding health and safety, and payments to home-based child care and relative providers are easy to meet, then a

large number of families who want to use this type of care will apply for subsidies. If, however, the rules are fairly stringent, so that otherwise unlicensed and unregulated providers do not want to go through the process of complying with those rules, then families who want to use these providers will not apply for subsidies.

No one has looked systematically at the stringency of rules for home-based care, how this interacts with the extent to which home-based providers are licensed, and how these factors affect the choices of child care, decisions to participate in subsidy programs, and the choices of whether and how many hours to work that are made by families eligible for subsidy programs.

B. CONSUMER INFORMATION

Supporting employment often requires more than assistance in paying for care. It may also require reducing the search costs involved in locating satisfactory child care arrangements by providing parents with the information they need to choose the child care arrangement that is most consistent with their preferences. Parents who have never tried to find regular child care may have difficulty obtaining information about providers and so may need assistance obtaining such information. They may also be inexperienced consumers of child care, so they may need assistance in identifying criteria for choosing providers, formulating their needs and constraints, and determining a plan for investigating and selecting a provider. The expectation is that informed consumers can put pressure on child care providers to supply the types, features, and quality of child care most desired by consumers,

1. Methods of Linking Parents with Information

There appear to be three different models for providing parent education and referrals to providers.⁶ In the first model, very little information is available about child care options because child care eligibility workers are the only source of child care information, and they are not very familiar with child care providers in the community. In some cities, staff of the subsidy agency tried to fulfill this parent education role even when a child care resource and referral agency (R&R) operated in the city, sometimes because the subsidy agency perceived the R&R as unable to address the needs of low-income families. However, the quality of information on child care provided by the subsidy agency is adversely affected by the lack of funding for such referral services; and by the fact that child care eligibility workers do not have the background to explain how to choose a quality child care setting.

In the second model, parents are given the telephone number of the local R&R agency and a brochure describing its services. Staff of the R&R, in turn, describe child care options and provide referrals to parents who call. The linkages between subsidy agency and R&R often do not work smoothly, however. In many cities, it was not clear that parents were routinely given information about the R&R unless they asked for assistance in locating a provider, even when the local R&R had a contract to provide referral services to families receiving subsidies. Staff of the subsidy agency were not always willing to send parents to the R&R for parent education and referrals.

A third model is to provide subsidies and parent information in a single location, which is much more convenient for parents. In addition, the quality of the information about child care options and about providers is better when both services are co-located or provided directly by the R&R agency for several reasons. These organizations follow standard practices for collecting and disseminating

information about providers that have developed over many years as the organizations have responded to parent requests for child care information. These organizations also work with child care providers in a variety of other contexts (including training, technical assistance, and administration of the Child and Adult Care Food Program), so they know what a quality child care setting looks like and can help parents identify what to look for to assess the quality of a child care arrangement.

2. Intensity of Information Services

Child care administrators in different areas have taken a variety of approaches to providing information about child care options, ranging from proactive to noninterventionist, and from energetic to ineffectual. For example, agencies in some cities take a very active role in informing parents about child care options. Parents receiving enhanced referral services are directed to providers who have just been checked for vacancies; and counselors follow up with the parent until a placement is made. If families are having difficulty finding a provider, agency staff members go into the neighborhood to develop a supply of providers. Enhanced referral services in most cities are available only to parents whose employers have paid for this service; however, one city extended these services to AFDC recipients for some time with funding from the welfare agency.

In other cities, the responsibility for administering child care subsidies is given to the child care R&R agency so that, as mentioned, parents can apply for subsidies and obtain information about child care options at the same place. When parents call the general telephone line at the R&R agency for a referral, the call is taken by a child care placement worker. If the discussion of child care options with the parent reveals a need for assistance in paying for child care, the child care placement worker can explain the various funding sources and refer the parent to a social worker if

she decides to pursue funding. Providing this level of service clearly requires that the social work staff have smaller caseloads than they would if they were simply determining eligibility.

Many cities have not established systems to provide parents with good information about their options when they apply for subsidies because to do so is expensive. In many instances, subsidies are available in a welfare or social services office, so families needing assistance in finding a provider are given the phone number of the local R&R agency. Parents who do not ask for help may not be given information- on how to obtain assistance. In other cities, parents asking for assistance in locating providers are simply given a list of licensed providers taken from the child care licensing office (even, in some instances, when a local child care R&R agency exists).

No research to date looks at the effectiveness of different strategies for informing parents about their child care options and about how to choose child care. It would be useful to look at different methods of linking parents with information services, and at different intensities of information and referral services with an eye toward examining how satisfied parents are with their choices over time and how successful they are at remaining employed. The speed with which parents are given help in finding child care may also be very important in supporting employment, as low-income parents cannot lose much time from work to resolve child care problems. It would also be useful to know how the provision of information and financial assistance for child care interact to help parents choose the type of child care they prefer and maintain employment over time.

¹ For more discussion-if how the quality of child care from the parent's perspective may affect employment, see Ross and Paulsell (1998).

²When we consider how sliding fees affect the family's disposable income as hours of work increase, we should use income net of taxes and including the EIC, food stamps, and other sources, as discussed in Chapter II.

³ Twelve states currently use a statewide rate, including Hawaii, Iowa, Louisiana, Montana, New Hampshire, New Jersey, North Dakota, Oklahoma, Rhode Island, Vermont, West Virginia, and Wyoming (National Child Care Information Center 1998).

⁴ Nearly half the states allow providers to charge parents a co-pay, including Arizona, Connecticut, Delaware, Georgia, Hawaii, Idaho, Louisiana, Maine, Massachusetts, Mississippi, Missouri, Nebraska, New Hampshire, New York, North Dakota, Ohio, Pennsylvania, Rhode Island, South Carolina, Tennessee, Vermont, Washington, and West Virginia (Adams et al. 1998).

⁵Turnover was 20 to 30 slots per month in many large cities with a population of more than 300,000.

⁶ See, for example, Ross (1996).

IV. CHILD CARE POLICIES AND THEIR EFFECTS ON PROVIDERS' CHOICES

Child care policies that are intended to help low-income families find affordable, high-quality child care may have important unintended effects on providers and the supply of child care. Understanding the likely responses of child care providers to policies may therefore help improve policy design. We begin by discussing what we know about child care providers as they operate in the child care market. We then discuss subsidy policies that affect providers and child care regulations that affect the costs of providing care.

A. CHILD CARE PROVIDERS IN THE MARKET

Several studies of child care providers conclude that the child care market is monopolistically competitive, meaning that it has several of the characteristics of a perfectly competitive market and several characteristics of an oligopolistic or monopolistic market (Magenheim 1993). Like a perfectly competitive market, the child care market has a very large number of providers supplying child care services; providers can also easily enter and exit the market. As in a monopolistic market, child care providers have some control over the price of child care services because they vary the characteristics of the products they provide (for example, age groups served, location, hours, and quality), and because information about viable substitutes is costly for parents to obtain.

Providers compete not only with providers of the same type of care (for example, competition among centers) but also with providers of other types of care. Parents view center-based and home-based providers as substitutes to some extent. Thus, if the cost of providing one type of care increases significantly so that prices must increase for that type of care, parents may choose the other type of care, bringing into play the market forces that ultimately change the supply of child care. For

example, if the cost of providing center-based care rises significantly as providers comply with ratio requirements for infant care, then parents may choose home-based care, center providers will have unfilled slots, and so some will go out of business, leading to fewer center-based care options for parents with infants. Parents face high search costs in obtaining information about providers on which to base their choice, and as a result, providers can compete on non-price characteristics of care by differentiating their product and thereby avoiding competing on price (Magenheim 1993).

Research by Blau (1993) indicates that the supply of child care labor (family child care providers and child care staff in centers) is very responsive to price. Blau used data from the Current Population Survey (CPS) to examine changes in the supply of child care labor between 1977 and 1987 in response to changes in the level of subsidies, the stringency of regulations, and the cost of child care. He finds that subsidies and regulations have little effect on the supply of child care labor. However, the elasticity of supply of child care in response to changes in the wage is between 1.2 and 1.9. This suggests that child care supply can expand relatively quickly to changes in demand with very little change in wages. In fact, over the past two decades, child care wages adjusted for inflation have increased very little even though the demand for child care has increased substantially.

B. SUBSIDY PROGRAMS AND THE SUPPLY OF CHILD CARE

Subsidy programs can have important effects on the supply of child care through the maximum payment rate and potentially, through the payment mechanism. Policy in these two aspects of child care can affect the quantity, price, and quality of particular types of child care, as discussed below.

1. Maximum Payment Rates

The statute establishing the CCDBG stated that parents who receive subsidies should have equal access to the types of child care available to families who are not receiving subsidies. To meet this goal, the regulations for CCDBG suggest that payment rates be set at the 75th percentile of market rates for the relevant type of child care; however, since the regulations do not require states to set payment rates at the 75th percentile, some states set lower rates.

When payment rates are lower than a provider's customary charge, we expect that the provider's response will vary depending on the strength of local demand for the provider's child care services and the availability of full-fee-paying families. In areas in which most families have low incomes or receive child care subsidies, providers may lose money when they serve children receiving subsidies. Providers in these neighborhoods are likely to charge families less as well, but this will lead to lower-quality care. Providers have to decide what mix of children from subsidized and full-fee-paying families, and what level of quality, will enable them to make ends meet. Many providers in low-income neighborhoods have been unable to put together a viable mix of children from fee-paying and subsidized families, and have gone out of business. In areas in which there is a high demand for child care and parents who can afford to pay full fees, providers may refuse to serve subsidy children. All of these factors limit the child care options of low-income parents. No research studies have systematically examined providers' responses — in terms of quality, price, and quantity supplied — to different levels of maximum payment rates.

States set different payment rates for different types of child care and different ages of children. In addition, they may set higher rates for special types of child care that need to be expanded — high-quality child care and care at nonstandard hours. Ideally, these payment rates would be set on the basis of an understanding of the costs of providing these types of child care and on knowledge of the

market rate for such care. Without this information, states might choose an arbitrary payment rate that will encourage some increase in supply but may not bring forth enough of the types of care that are needed. Nevertheless, there is no information about how the supply of quality child care and care at nonstandard hours responds to changes in the price of child care, so policymakers have little to guide them in setting rates for these types of care.

2. Payment Mechanisms: Vouchers or Contracts

States use one of three main payment mechanisms for child care. Vouchers are the most common because federal regulations for the major child care subsidy programs have sought to ensure equity in parental choice of child care arrangements by requiring states to offer parents the option of using a voucher to purchase child care services. Vouchers give parents the ability to choose any legal provider, and providers the security of knowing they will be paid regularly by the agency as long as they care for this particular child. Second, some states reimburse parents for child care expenses, and parents, in turn, pay providers. Providers may be less satisfied with this reimbursement mechanism, because when parents face cash flow problems, the provider's payment may be the first to be delayed. Reimbursement is most often used for child care by relatives and sometimes for unregulated home-based providers. Finally, some states use contracts to pay providers. A contract lasts for a relatively long period, during which time the provider needs only to keep the slot filled to receive payment from the child care agency. In contrast, a voucher only ensures payment while a particular subsidized child is in that slot; if that child leaves, the subsidy goes with him or her. While providers prefer contracts for their greater reliability and durability, parents may prefer the greater flexibility of using vouchers, which support a broader range of child care choices.

Ficano and Gennetian (1998) have completed preliminary work with the Profile of Child Care Settings data on child **care** centers to examine the question of whether lower-quality child care centers tend to seek out subsidies. Pointing out that measured quality may be endogenous to the decision about type of funding, the authors examine the empirical relationship between the predicted quality of a center in 1990 and the center's decision to accept vouchers, to contract for slots, to become a Head Start center, or to provide services financed only by private fees, without any subsidies. Quality is measured by teacher education and training, group size, and staff-child ratios. They find that somewhat lower-quality centers tend to contract with public agencies to provide subsidized care, and that this decision appears to be partly related to unused capacity in these centers.

In contrast, Helburn et al. (1995) use data on centers from the Cost, Quality, and Child Outcomes in Centers study to examine the quality of care provided by centers with different auspices and funding sources. They find that the highest-quality care is provided by publicly sponsored centers, independent nonprofits, private centers that receive funds tied to higher standards, and worksite centers. These authors use a measure of the quality of the child's experience in child care, which is more direct than the ones used by Ficano and Gennetian (1998); however, Helburn et al. (1995) do not correct for the potential endogeneity between quality and funding source. That is, a center may obtain funding from a given source because it has high quality compared to other centers in the area. While that funding source may then help the center to further improve quality, its current level of quality cannot be fully attributed to having a particular funding source. The true effect of the funding source on quality is the **change** in quality resulting from having a particular funding source.

In Helburn et al. (1995), the higher-quality centers tended to have higher costs, and notably, their funding tended to be regular and predictable, as would be true for contracted centers or Head

Start programs (but not for programs accepting vouchers). Nevertheless, because of the likely endogeneity between **quality** and sources of funding, these authors have established a correlation without really explaining how it arises. The work of Ficano and Gennetian (1998) is promising but would be stronger if it were based on data from a more recent child care policy environment, and if it used variation in quality and funding sources over time to tease out the relationship between quality and sources of funding.

3. Effects on Providers of Offering Information to Parents

One of the reasons the child care market is not perfectly competitive is that parents cannot easily obtain information about the quality, price, and other features of child care supplied by each provider before making a decision. Economic theory suggests that if providers can differentiate their products (which they do) and if information is costly to obtain (which it is), then providers can charge more than marginal cost for their services. The result is greater price dispersion and higher average prices than one would observe in a perfectly competitive market.

Child care R&R agencies existed in about half of all local areas in the U.S. in 1990, most commonly in areas of higher income and education (Chipty and Witte 1998). Since that time, part of the CCDBG funding has been earmarked for quality improvements, including the funding for R&R agencies, and many states have used this funding to introduce or expand the scope of resource and referral. These agencies maintain databases on licensed and regulated providers in the area so that they can help parents identify and contact providers. The National Child Care Study of 1990 found that only 9 percent of the parents surveyed said that they found their current center or non-relative, home-based provider through an R&R service; 66 percent said that friends, neighbors, or relatives helped them locate care (Hofferth et al. 1991). It is possible that a larger proportion of

parents may have contacted an R&R agency to find child care, but they may have ultimately found their provider by following a lead provided by a friend or relative. Nevertheless, the National Child Care Study was conducted in the very early years of the JOBS program and before states put large amounts of new funding toward building or expanding R&R services. In the new welfare environment and with larger and more widespread R&R agencies, more parents may use these services as they search for child care.

Chipty and Witte (1998) examine how R&R agencies have influenced the price and quality of child care. They use data from the Profile of Child Care Settings (PCS) on the prices of care and child-staff ratios for infants, toddlers, preschool-age, and school-age children in centers. The PCS obtained information on centers in 100 different counties or county groups that were representative of centers in the U.S in 1990. The authors also obtained information on the presence of R&R agencies in the 100 PCS markets in 1990. Chipty and Witte find that R&R agencies have large and statistically significant effects on the distribution of prices for the care of infants and toddlers. Compared with prices in other markets, prices in markets that have R&R agencies are significantly less dispersed, and the maximum prices are lower for infant and toddler care. Prices of care for preschool-age children are not affected by the presence of R&R agencies. Price dispersion and average prices for school-age care are not significantly affected by the presence of R&R agencies, but the maximum price is reduced.

The effects of information provision on the market for infant and toddler care may be greater than for older children because for infant and toddler care, the amount of information parents have about providers compared to the amount of information providers have about parents is substantially asymmetrical. Younger children are not able to report accurately about the quality of child care they are receiving, and many parents with young children are new to the child care market., Chipty and

Witte conclude that parents are willing to incur higher search costs for infant and toddler care because of the great **asymmetry** in information and because they value higher-quality child care for this group. When children 'are older, parents are less willing to search intensively for child care because they have become more experienced consumers of care and because their children are better able to tell them what goes on in their child care setting.

Chitty and Witte note that the decrease in prices associated with the presence of R&R agencies may be accompanied by a decline in the quality of care. They examine staff-child ratios and find that R&R agencies have no effect on the distribution of this quality indicator in child care markets.

Since staff-child ratios are not perfectly correlated with the quality of the child's experience in care ("process quality"), the authors do not draw firm conclusions about whether the presence of R&R agencies intensifies the price competition surrounding unobservable (process) quality.

Chitty's and Witte's conclusion -- that the presence of R&R agencies affects prices in the infant and toddler care markets -- is curious when only 9 percent of the parents in the NCCS study reported receiving help from an R&R agency in locating child care. Hofferth et al. (1991) do not report whether the proportion of parents using R&R agencies was higher for parents of younger children, or whether parents used the R&R agency but did not ultimately find their provider through that service. Nevertheless, one wonders how R&R agencies can affect market prices if so few parents used them to find their child care arrangements.

C. REGULATIONS AND THE SUPPLY OF CHILD CARE

Several types of child care regulations and standards designed to ensure quality vary by the extent of their applicability to providers and the level of quality they would require. Child care licensing establishes thresholds for health, safety, and quality to reduce the risk of harm in child care

settings. The state determines which types of providers must be licensed in order to legally provide care, and in order to **receive** the license, these providers must meet certain standards. Most states require child care centers and some home-based providers (depending on the number of children they care for) to obtain a license. The minimum number of children in home-based care at which licensing is required varies from one child in Maryland, Florida, and Oklahoma to thirteen children in South Dakota. Thus, in many states, a substantial number of home-based child care providers may operate without any regulatory oversight by the state.

Other child care standards seek to raise the level of quality beyond basic assurances of health and safety, toward high-quality. The Head Start program standards cover the full range of health, safety, child development, and family support issues, and are applied to Head Start centers and family child care homes by law. However, the vast majority of child care settings are not covered by the Head Start standards. **Another** frequently-cited set of quality standards are the accreditation standards from the National Association for the Education of Young Children (NAEYC). These standards are considered to be authoritative guides to quality for child care centers (and quality standards have also been developed for home-based care by the National Association for Family Child Care), but they are voluntary and are met by only a very small fraction of child care settings.

This section discusses the effects of state regulations on child care quality, prices, and quantity supplied, since the largest number of providers are affected by these standards. Regulations are established partly to overcome the problem of information asymmetry in the child care market. Parents cannot have perfect information about the quality of care their children receive all day, so in part to address this problem, regulations are designed to ensure that providers offer a minimum level of care. The dilemma of regulation is that higher standards may raise costs for providers to a

point at which parents will seek substitute providers, and this may reduce the supply of certain types of child care.

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Hofferth and Chaplin (1998) estimate a model in which regulations affect the quality, cost, and availability of child care, and these outcomes in turn affect parent choices of care. They use data from the NCCS to estimate the effects of regulations for centers and home-based providers governing child-staff ratios, training, and inspections. They find that training requirements for center-based providers reduce the likelihood that parents choose a center, while state inspections increase the likelihood that parents will choose center-based or regulated home-based setting.

Chitty and Witte (1997) used data on child care centers from the Profile of Child Care Settings (Kisker et al. 1991) to examine how regulations affect the center's decision to exit a market and the resulting quality of child care available in the market. They find that more stringent ratio requirements for infant and toddler care cause centers to exit this market, and that the requirements are associated with increases in the average and maximum child-staff ratios in the market. They conclude that the higher-quality centers that were competing on quality rather than price cannot compete as effectively when standards are raised, so they exit the market. For school-age care, however, lower required child-staff ratios do not lead to exit, so when ratio requirements are more stringent, school-age care has lower average and maximum child-staff ratios. The authors conclude that policymakers need to understand how child care providers will respond to changes in regulations in order to determine whether a given change will accomplish their policy goal. Moreover, the potential for multiple effects on supply both within the market being regulated and in the markets for substitutes could reduce the usefulness of regulations as a policy tool. We need more information about providers' responses to regulations so that this tool can be used more effectively to meet policy goals.

V. CONCLUSIONS AND RESEARCH AGENDA

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The cost of child care can be substantial in relation to the income of a low-skilled parent with young children. Since earnings of low-skilled workers are not expected to increase very much even over a period of as long as a decade, parents in low-wage occupations are likely to have difficulty paying for child care when their children are young and in need of full-time care. The high cost of child care and the likelihood that some parents may have to sacrifice quality for affordability, means that child care can present a significant obstacle to the stable employment of low-income mothers.

Child care costs and subsidy policies designed to moderate those costs for low-income families can be analyzed directly using an economic framework. The economic framework is based on the assumption that individuals try to make themselves as well off as possible within the constraints of their budgets and the price of goods. Those who supply goods to consumers try to do so as efficiently as possible, given the costs of resources they use in production, so that they can obtain the highest return. These basic assumptions lead to testable hypotheses about the choices parents and providers will make in the child care market. This paper has discussed the extent to which these hypotheses have been examined in the child care literature and the extent to which the empirical information in the research literature is a sufficient basis for making child care policy. Nevertheless, because of data limitations, substantial gaps in our understanding of the child care market remain.

A. CHOICES OF LOW-INCOME FAMILIES IN THE CHILD CARE MARKET

Economists have tested hypotheses about the behavior of parents and providers in the child care market and have measured the magnitude of responses to prices in the child care market. Labor economists have measured the responsiveness of mothers' employment decisions to child care prices, and the responsiveness of their child care choices to the price of care. In general, studies of mothers

have found that their employment decisions are modestly sensitive to child care prices. However, the literature pertaining to low-income mothers is less than conclusive, and the issue needs to be further studied now that these women's former alternative to working — welfare — is no longer a reasonable option. Many of the existing studies also suffer from having used estimated values of wages and child care prices for women who were not working or were using paid care. Kimmel (1998) demonstrates how sensitive estimates of the elasticity of employment with respect to child care prices are to the specifications of estimated child care costs.

In light of these gaps in the literature, we have several recommendations for future research on these issues:

- ***Study Employment Responsiveness of Low-income Mothers to Child Care Prices*** — Data collection should focus on low-income mothers and provide for sufficiently large samples to examine separately the responses of mothers who have preschool-age children and the responses of mothers who have only school-age children. The analysis should measure the responsiveness of employment decisions and child care choices to child care prices.
- ***Obtain More Wage and Child Care Data to Avoid Having to Estimate Missing Values*** — If data on mothers are collected over a period of about two years, it may be possible to observe wages for a larger portion of the sample. Information should also be collected on the prices of child care in the markets these women face so that the price of child care would not have to be estimated on the basis of the child care expenses of women paying for child care.
- ***Use a Broader Set of Employment Measures*** — With longitudinal data over a two-year period, it would be possible to analyze the effect of child care prices on additional measures of employment — for example, stability, or the number of months employed.

B. CHILD CARE SUBSIDY POLICIES AND THEIR EFFECTS ON FAMILY CHOICES

Child care subsidy policies are intended to help parents pay for child care. Families with sufficiently low incomes may participate in a subsidy program, paying a specified amount for child care that depends on their income. The state pays providers the remainder of the fee, up to a maximum amount.

Nevertheless, the specific design of these policies can affect parents' work choices and the supply of child care. The structure of sliding fees varies across states, and the way in which sliding fees interact with family income may affect parents' work decisions. The structure of sliding fee scales may also affect parents' child care choices in ways that also influence the stability and quality of child care and the cost per child of subsidies. Policy choices, such as spreading funding for child care assistance across more families by reducing the average subsidy amount, may lead to increases in sliding fees. In turn, these increases may have adverse effects on employment. A policy that reduces maximum payment rates may have adverse effects on the supply of child care to children receiving subsidized care.

Despite a plethora of straightforward hypotheses on the effects of subsidy policies on the decisions of parents and child care providers, we need to observe family circumstances and choices under experimental policy variations to control for state-to-state differences in economic conditions, welfare program environments, child care markets, and other conditions to estimate the magnitude of these responses. We need information on the proportion and characteristics of eligible families who are participating in child care subsidy programs, what parents pay for child care, and how participation in child care subsidy programs affects what parents pay. Therefore, we recommend future research in the following areas:

- ***Demonstration of Family Choices Under Different State Child Care Program Rules*** — A major goal of ~~this~~ study should be to obtain information that can be used to identify principles for the optimal design of child care subsidy programs in the current welfare policy environment.’ Additional goals include learning about parents’ responses to variations in child care program rules. This study should test variations in income eligibility limits and sliding fee structures. Researchers would randomize families to face different child care subsidy policies, and then survey them periodically about employment, earnings, child care use, payments for child care, and awareness of and participation in child care subsidy programs.
- ***Study of Child Care Availability, Preferences, and Choices under Welfare Reform*** — As part of the child care subsidy demonstration, it would be possible to update and expand our information about several issues. Welfare reform may make it more difficult for relatives to help with child care because they may be required to work. To what extent do parents leaving welfare for work have relatives available for regular child care or for backup child care in an emergency? Do parents and relatives who could provide child care arrange their work schedules to make this possible? Are there any differences in the tendency to use relatives for child care by ethnicity?
- ***Study of School-Age Child Care Needs*** — The child care subsidy demonstration could also provide access to a sample of parents with school-age children. A focus group study could examine parents’ preferences regarding school-age child care and how the cost of school-age care affects choices of care and employment decisions. For example, do parents of school-age children seek jobs that coincide with the school day so that they can be home with their children after school? Would their employment choices change if good after-school care were available at very low cost?
- ***Study of Provider Choices*** — Researchers would draw a representative sample of providers in the local child care market, and obtain information about their fees, quality, and features of the care they provide. The provider data and state data on payment rates would be used to analyze the relationship between maximum payment rates and providers’ willingness to serve children receiving subsidies. These data could also be used to analyze the relationship between maximum payment rates and market prices and quality.
- ***Estimate Child Care Program Participation Rates and Participant Characteristics*** — This study would obtain basic information about current child care subsidy policies and TANF policies in the states so that a microsimulation model could be used to estimate the size of the population eligible for child care assistance in each state. Information should also be collected on the number of participating children and families by demographic characteristics in each state. A microsimulation model would allow researchers to combine information on the number of eligible children and families with data on the number of participating children and families to yield participation rates by

state and by basic family and child characteristics. Obtaining data on participating families may require investments in administrative data systems in some states.

- . *Analyze State ²Child Care Program Participation Rates and Policies* – The information on child care program participation rates by state and demographic group could be compared with information on state child care policies to develop hypotheses about the factors influencing parents' participation decisions. Future work could then develop methodologically strong tests of the most important hypotheses to learn more about parents' participation decisions and develop recommendations for improving child care subsidy policies.
- . *Study of Home-Based Care Used by Families Receiving Child Care Subsidies* – This study would be designed to learn more about the ways in which (1) state licensing rules and (2) subsidy program rules regarding standards and payments to home-based providers affect the choice of child care provider, the decision to participate in child care subsidy programs, and the employment choices and outcomes of parents eligible for child care subsidy programs.
- . *Study of Provider Responses to Payment Rate Incentives* – Many states offer higher payment rates to child care providers who offer child care meeting certain characteristics. For example, high-quality child care and care at nonstandard hours may be reimbursed at higher levels. It would be helpful to know the size of the supply response to higher payment rates. It may be possible to test these responses by selecting three or four states, and having these states each select three or four communities in which to offer different levels of incentive payment rates. The study could rely on data from the child care subsidy system if good data are available on parents' work schedules and provider characteristics. While this study is not methodologically very strong (since the payment rate incentives may change the mix of families participating in subsidy programs and communities in states may differ in their need for child care at nonstandard hours) the study would provide some information on providers' responses to these policies and could provide a foundation for designing a stronger study if more information would be useful.

C. CHILD CARE POLICIES AND THE SUPPLY OF CHILD CARE

Some important information is emerging about the behavior of child care providers under variations in regulatory policy and variations in the availability of R&R agencies. This research is based on analyses of data from the Profile of Child Care Settings and the National Child Care Survey 1990. Both databases include information from parents and child care providers in 100 communities selected to be representative of the U.S. Researchers have also added information about economic

and regulatory conditions in the PCCS/NCCS communities. While the analyses of the PCCS and NCCS data have been **valuable**, the data predate welfare reform. They also predate the significant child care policy changes that occurred in the early and middle 1990s as new funding became available to states, and as federal child care program regulations required states to design their child care policies to emphasize parent choice. Therefore, we recommend research in the following area:

- ***Repeat the PCCS and NCCS Studies, a Decade Following the Original Studies —*** Significant policy changes are the rationale for repeating these important studies of the child care market. Moreover, some analyses that exploit variation across time could be performed if the same (or most of the same) child care markets were chosen for the repeat study. Regulatory changes over the period may have caused changes in the supply of child care that could be examined using data on child care providers in the same communities at two or more points in time. Changes in child care subsidy policies and in the demand for child care may also affect the quantity, quality, and price of child care over time. A repeat of the PCCS and NCCS studies would support further research on the effects of regulations and subsidy policies on the supply of child care. The ability to use data over time would strengthen analyses based on a second round of the parent and provider studies. Nevertheless, while some basic consistency across time is needed if comparisons are to be made, care should be taken to improve aspects of these studies in whatever way possible. The studies should include subsamples of low-income parents that are large enough to provide useful information on the child care market that faces low-income parents. The studies should also include a sample of unregulated, home-based providers in at least a subset of sites, because these providers make up a significant portion of child care supply. An observational assessment of the quality of a subset of child care providers included in the study could offer a **nationally-representative** measure of the quality of child care in the U.S. This could be done in a subset of sites to make the effort more manageable.

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**Sustaining Employment
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Parents: Options for
Child Care Research**

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I. INTRODUCTION

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Welfare reform has increased the urgency of child care policy issues affecting low-income families. The large number of parents of young children who are now subject to work or schooling requirements has increased the need for good-quality, affordable child care that will support employment activities. Financial assistance to families for child care expenses and policies that may affect the supply, cost, and quality of child care are receiving greater scrutiny as state welfare administrators seek to remove obstacles welfare recipients may face as they try to enter employment or maintain stable employment over time.

Child care may be an important factor that can either support or undermine efforts to remain employed. The cost of child care can be significant in relation to wages from low-skilled jobs, so the cost of child care can be a deterrent to work. Poor-quality child care or unreliable child care may also lead to interruptions in employment. In addition, the stability of child care arrangements may be threatened by complex, inefficient administrative practices that interrupt payments to child care providers, or it may be threatened by unexpected changes in work schedules. Instability in child care arrangements can, in turn, lead to disruptions in employment. Jobs with nonstandard hours may not match the standard schedules of child care providers, and jobs without leave may provide few options for parents who need to care for an ill child.

The Role of Child Care in Low-Income Families' Labor Force Participation is a project that was developed to create a stronger information base for child care policymaking in the new welfare reform environment, where an important goal is securing and retaining employment among low-income parents. As part of this project, MPR has produced three research review papers synthesizing research on aspects of child care that may affect the ability of low-income

parents to obtain jobs, to retain employment over time, and to obtain higher earnings under welfare reform. The papers discuss the following aspects of child care and how they relate to employment:

- ***The Cost of Child Care.*** This paper examines how the cost of child care and the structure of child care subsidy programs affect low-income parents' decisions about employment.
- ***The Quality of Child Care.*** This paper examines what child care quality means to parents and professionals and how the quality of child care affects the employment decisions of low-income parents.
- ***The Flexibility of Child Care.*** This paper examines the extent to which low-income parents face inflexibility in jobs, child care, and family situations, and the effect of inflexible jobs and child care on employment.

The papers discuss what we know about each of these topics from the research literature, and what questions need further research in order to inform child care policy. In this final report, we identify the major areas in which the papers identified research gaps, and we propose several design options for research studies that could address these gaps.

In the next section, we summarize the major findings of the three working papers. We discuss what is known about how the cost, quality, and flexibility of child care influences the employment of low-income parents, and how well policies designed to improve these aspects of child care actually meet their goals in terms of improving child care and influencing employment outcomes. We also note the gaps in research knowledge that led to the current set of recommendations for further child care research. A subsequent section summarizes the major research questions that remain after our review of the literature, and a final section outlines the research designs described in this report.

A. SUMMARY OF FINDINGS FROM THE RESEARCH REVIEW PAPERS

The research review papers provide a comprehensive discussion of the current status of the literature linking child care with employment among low-income parents. In this section, we summarize the major conclusions of the papers to provide the background and rationale for the recommended research designs in this report.

1. Child Care Costs And Subsidies

Most parents leaving welfare for jobs are likely to need child care while they work. In 1995, over 60 percent of the parents receiving welfare had an infant, toddler, or preschool-age child who would need child care during all of the parent's work hours. Another 24 percent of parents receiving welfare had a child in elementary school who would need supervision outside of school hours if the parent worked at that time.

The cost of child care is widely recognized as a major barrier to employment for low-income mothers of young children. Even modest child care costs can strain the budgets of low-income families. In fall 1993, the average cost of child care for a preschool-age child was \$4,000 per year, or 25 to 30 percent of earnings from full-time work at a wage of \$5 to \$6 per hour. While many low-income families find free sources of child care, low-income single mothers are more often forced to pay for child care because most do not have other adults in the household who could help care for children. This problem is complicated by the fact that, because the skills of parents leaving welfare for work are low, their earnings are not expected to increase significantly over the long term. This means that low-income parents will probably have inadequate resources for child care for the entire period over which their children are young, and the child care costs they face are substantial.

Child care costs are likely to affect employment decisions because these costs effectively reduce the amount of income a parent can earn from work outside the home. Empirical studies have focused on the employment decisions of mothers, and there is consensus that higher child care costs will reduce the likelihood that mothers will work, although the size of the response of low-income single mothers is uncertain. More information on the employment response of low-income mothers to child care costs is needed, particularly in the new welfare environment, when welfare is not a viable alternative to working over the long term. Moreover, very little is known about the price sensitivity of parents' choices of child care, or about how the quality and reliability of these choices may affect the parent's ability to sustain employment.

Child care subsidies are probably the most important policy tool affecting the child care choices and employment decisions of low-income families because these subsidies directly affect the child care prices faced by families participating in subsidy programs. State policies for child care subsidy programs include income eligibility requirements, sliding fee schedules (the amount parents must contribute to the cost of child care, which depends on income), and maximum payment rates to providers. Income eligibility limits provide the most basic definition of who may receive subsidies. States currently set these limits on the basis of equity — which families are most needy — not on the basis of an assessment of those for whom the subsidy would yield the greatest change in employment because we lack information on the latter. Sliding fees tend to be low for families with income below the poverty line, but beyond that point, many states increase fees quickly until the point at which families become ineligible for subsidies in order to prevent a sharp increase in child care costs when the family becomes ineligible. However, the steep increase in sliding fees at incomes above the poverty line, combined with large reductions in other benefits for low-income families over the same income levels, means that net income

(earnings, income transfers, and child care costs) increases only slightly with employment. This is likely to create a **disincentive** to work in the income ranges over which benefit reductions and sliding fee increases are large. Maximum payment rates are typically set at the 75th percentile of the market cost of child care, by type of care and age of child, but some states set lower rates. When maximum payment rates are below the provider's rate, the provider is unlikely to serve families receiving a subsidy. However, we do not know the extent to which reductions in payment rates from the 75th percentile limit parents' choices of child care.

Although many welfare recipients entering work activities have young children and very low income, rates of participation in child care subsidy programs appear to be low. We currently lack sufficient data to understand the low participation rates in child care subsidy programs. Possible reasons include a lack of information, administrative difficulties that increase transactions costs associated with participation, program rules regarding payments to caregivers related to the child and to unregulated providers, and high sliding-fee scales.

Two types of child care policies may have important effects on the supply of child care for low-income families. Incentives for providers, including maximum payment rates in child care subsidy programs, and financial assistance to providers through state child care quality and supply enhancement programs, may increase the supply of good-quality child care for low-income families. Higher maximum payment rates may lead more providers either to serve families receiving a child care subsidy or to provide the features (such as quality or nonstandard hours) that are encouraged by variations in the payment rate, but we do not know the size of providers' responses to payment rates. Funding from state programs to improve quality and supply is designed to expand the supply of good-quality child care in low-income neighborhoods, but we do not know how much displacement occurs because of these programs.

Regulations that seek to raise the standards for child care settings may have unintended effects on the price, quality, and-quantity of child care. The cost of providing care is likely to increase for the type of child care targeted by regulation. This will lead to adjustments in quantity, price, and quality both within that type of child care and among competitors, who adjust in response to the changes made by the targeted child care providers. Research on the size and direction of these effects is not conclusive, however, due to data limitations. More information is needed about providers' responses to regulation so that this tool can be used more effectively to meet policy goals.

2. The Quality of Child Care

Quality in child care refers to children's experiences in the child care environment and to features of this environment that are believed to affect children's development. There is broad agreement among professionals about what constitutes quality in formal settings for infants, toddlers, and preschool-age children, but more work is needed to define and measure quality for young children in informal home-based settings, for care at nonstandard hours, for school-age children in non-institutional settings, and across types of child care.

Parents and professionals agree that quality child care arrangements include a nurturing environment and educational opportunities, but parents tend to evaluate particular child care settings as having higher quality than professionals would. We do not know the extent to which parents' perceptions of the quality of a child care setting change over time as they obtain more experience with and information about a child care setting.

A parent's decision about whether and how much to work will depend in part on her perception of the quality of the child's care setting. Thus, to the extent that improvements in the

quality of child care as measured by developmental psychologists go unnoticed by the parent, we would not expect to **observe** an improvement in employment outcomes.

There is very little empirical research on the relationship between child care quality and employment. A study of welfare recipients indicates that trust and safety issues affected the parents' continued involvement in welfare-to-work activities, but this study preceded welfare reform policies implemented in 1997, and parents in the study may not have had access to the full range of quality child care. A study of mothers of low-birthweight infants and toddlers indicates that mothers with lower education and more medically fragile infants entered employment earlier and were employed for a greater number of months when they were provided with high-quality, center-based child care for their children. More research is needed on the employment effects of high-quality child care in a broader welfare and low-income population in the new welfare reform environment.

Policies to improve the quality of child care need to be informed by an understanding of the current quality of child care in the U.S., the key features of a quality child care setting, a better understanding of how to improve the quality of child care, and the cost of quality child care. Four large, multi-site studies of the quality of child care conclude that good-quality child care is relatively rare, and for infants and toddlers and for nonregulated home-based settings, fairly large proportions of child care arrangements may be characterized as having poor quality. However, these studies were not nationally representative, response rates tended to be low, and questions have been raised about the measures used for home-based care. More work is needed to improve response rates in studies of child care providers and to measure quality in a nationally representative sample of child care settings. We currently know little about the factors that affect the quality of center-based care, and we know even less about factors that **affect** the quality of

home-based care. More work is needed to understand what makes a difference in producing a quality child care setting and how child care policies can **affect** quality.

While parents' evaluations of the quality of a child care arrangement may affect their employment decisions, we do not know how important quality is to their choice of a particular child care setting. If child care policies were to make good-quality child care available to **low-income** parents, would they use these settings? Because low-income parents often face constraints imposed by work schedules, lack of resources, and lack of transportation, they may need to choose a child care arrangement that is flexible, affordable, and conveniently located even though it does not provide the level of quality they desire.

3. The Flexibility of Jobs, Child Care, and Family Support

Low-income parents may have difficulty combining their employment and child rearing responsibilities because low-wage jobs often have inflexible schedules, nonstandard work hours, and no sick leave or annual leave. At the same time, regulated child care arrangements tend to be inflexible, with standard hours and little ability to adjust to changing work schedules. To further complicate this situation, low-income single parents often do not have another adult in the household who can share child-rearing responsibilities, leaving them with few options when jobs and child care arrangements are inflexible.

Our review of the literature on the extent of the flexibility problem for low-income families found that the problem is an issue for many of them. About half of all low-income parents have inflexible family situations in which other adults are not available to help when child care arrangements break down or when children are sick. About half of parents leaving welfare for work are likely to work nonstandard schedules, and the proportion is growing. Parents may also

have variable work schedules, either because of job requirements or because frequent job changes lead to changes in schedule. The supply of regulated child care is very limited during nonstandard hours and days, and does not respond well to variable work schedules. However, we do not have any information on the demand for regulated child care during nonstandard hours or on the supply of nonregulated child care, which tends to be more flexible. In addition to the lack of flexible scheduling by regulated child care providers, parents may have additional difficulties finding child care for times when their provider takes a day off, when their child is sick, when their child has special health needs or behavioral problems, or when school-age children have a school vacation.

Evaluating the extent of the problem of flexibility is not a straightforward task. For instance, the research provides estimates of the frequency of the problem of inflexibility in jobs, child care, and family support individually for low-income parents. But some of the information needs to be updated, and more important, the information needs to be combined in order to provide an accurate sense of whether flexibility is a problem for the parent. Emlen points out that inflexibility is only a problem if it occurs in all three areas at once. “If a parent has an inflexible job but very flexible child care, then employment can be sustained (Oregon Child Care Research Partnership 1997). Therefore, to assess the magnitude of the problem of inflexible jobs, child care, and family support, we need to measure the degree of flexibility across all three dimensions at once for each individual.

In addition to not knowing how much flexibility low-income working parents have across the three major sources, we do not know how the degree of flexibility in one or more of these sources is related to employment outcomes. We suspect that inflexibility in employment, child care, and family situations may be most significant as a barrier to retaining employment, rather

than a barrier to entering employment. Parents may initially begin working at an inflexible job and make child care arrangements that are either unreliable or not as flexible as the job requires. The parent may be able to continue working up until a child care crisis occurs or until an unexpected change in work hours, and then she may not be able to resolve the conflict without losing her job.

While these hypotheses are plausible, empirical evidence to support them is not available. Emlen has measured the degree of flexibility in each area for several distinct samples of parents, including a low-income sample of families receiving child care subsidies, but all of these parents were employed (Oregon Child Care Research Partnership 1997). Since inflexibility may be a problem that affects employment retention, we need to measure flexibility for a sample of welfare recipients who are entering employment and follow them to see how long they retain their jobs in order to learn how much flexibility is needed to sustain employment.

Several policy options could address the flexibility problem. Emlen notes that a “fourth source” of flexibility is parents’ initiative in developing creative solutions to the problem flexibility in their child care, family support, or job. In addition, low-income parents could be offered assistance in making child care arrangements that would guide them in thinking through their potential child care needs and in developing backup arrangements to accommodate these needs. Employers could be encouraged through financial or other incentives to provide greater flexibility in jobs to help parents continue working while meeting their child-rearing responsibilities. Finally, incentives could be provided to child care providers directly or to employers to offer flexible child care. Many of these policy options could be accomplished at the initiative of governments, employers, or community organizations, and they could be financed by some combination of these players.

Little research is available on the effects of initiatives to improve the flexibility of jobs or child care for **low-income families**. The research that exists is based on pre-post or **comparison-group** designs that provide relatively weak evidence of policy effects. Although a random assignment design could provide stronger evidence, it may be difficult to use to study employer initiatives because individuals cannot be randomly assigned to employers.

B. SUMMARY OF CRITICAL RESEARCH QUESTIONS

Our summary of the research review papers has identified many critical policy questions that are left unanswered in the research. This section summarizes the major research questions that remain after our review of the literature. On most , some research provides helpful information, but many important gaps exist.

1. The Role of Child Care Costs and Subsidies

Compared with research on quality of child care, relatively more attention has been focused on the role of child care costs and subsidies in the parent's employment decision and in the supply of child care. The available research concurs that parents generally are less likely to be employed or to choose paid child care as the price of child care rises. Nevertheless, several important gaps in the research remain, including:

- ***What is the cost of child care for low-income families?*** What are child care costs for center-based and home-based child care in low-income neighborhoods, by age of child and by quality of care, in different regions of the country and in cities, suburbs, and rural areas? We need more current information on prices charged by child care providers and amounts paid by parents with and without child care subsidies. We need information on prices in the regulated and unregulated sectors of the child care market.
- ***How sensitive is the employment of low-income parents to child care costs?*** This issue needs more attention in the new welfare environment, since mothers on welfare

are now required to work, welfare is time limited, and there may be fewer relatives available to care for children.

- ***What are the child care preferences of low-income parents?*** When parents are given more resources to pay for child care, what types of care do they choose? Do they choose higher-quality child care? How do these choices vary across ethnic groups?
- ***How are child care subsidy policies in the states affecting low-income families?*** What are the participation rates of families in child care subsidy programs and what factors affect those rates? What are the characteristics of eligible participating and nonparticipating families? How do subsidies affect choices of child care and employment outcomes over time?
- ***What is the current supply of child care, and how do providers react to child care policies?*** How do regulations and subsidy policies affect the quantity, quality, and price of child care for low-income families? We need a more current child care supply study that covers all sectors of the child care market for low-income families.

2. The Quality of Child Care

While quite a large body of research has examined the effects of child care quality on children's development, much less research has explored the links between the quality of child care and employment decisions of parents. Several important gaps in the literature need attention, including:

- ***How should we measure child care quality?*** We have widespread agreement about what constitutes quality in formal child care settings but less agreement about quality in home-based settings. For preschool-age children, we need to reach consensus on measures of quality that are appropriate across settings so that quality can be compared across a wide range of settings and research studies. These measures could also be used to develop low-cost proxy measures of quality so that child care quality could be measured in more labor-market-oriented studies, in which the cost of directly measuring quality is now prohibitive. We also need to learn how to increase response rates in child care quality studies because the response rates in recent studies of child care settings are well below what is acceptable in research on individuals and households. For school-age care, we need to further conceptualize quality and develop measures of quality that are appropriate

across ages and settings. We also need to learn more about what features of care parents want for school-age children.

- ***How can quality child care be developed in low-income neighborhoods?*** What combination of features best predict high quality in a child care setting? What are the most effective strategies for improving the existing quality of a child care arrangement?
- ***What is the effect of child care quality on the employment of low-income mothers?*** If good-quality child care were made available and affordable in low-income neighborhoods, would parents use it? What is the effect of the availability of good-quality child care on employment decisions (decisions about whether to work, the number of hours to work, and the stability of employment over time)?

3. The Flexibility of Jobs, Child Care, and Family Support

Mothers of young children need some flexibility in their job schedules and child care arrangements in order to respond to emergency needs both at work and at home. We know that many low-wage jobs have nonstandard or rotating job schedules, and child care must be arranged to cover these work hours. We also know, however, that many low-income mothers have very inflexible family situations that provide little assistance with child care; many have very inflexible jobs; and most formal child care arrangements keep standard and very inflexible hours. Still, several questions about flexibility remain:

- ***How much flexibility in family situations, jobs, and child care do women have who are leaving welfare?*** In the current welfare reform environment of work requirements and time limits, what proportion of women have flexible family situations? Among those with less flexible family situations, what proportion have inflexible jobs and inflexible child care options?
- ***How can public policy improve the flexibility of jobs and child care?*** What public policies would encourage employers to help improve the flexibility of jobs or child care for their low-wage workers? What public policies would encourage child care providers to offer flexible, nonstandard -hours?
- ***How would greater flexibility of jobs and child care affect job retention and progression for low-income mothers?*** How does the degree of flexibility across

jobs, child care, and family situations affect job retention and progression? What other aspects of employment (for example, absenteeism) are **affected** by the degree of flexibility? ➡

C. SUMMARY OF RESEARCH DESIGNS FOR DISCUSSION

Our review of the child care literature, summarized above, identifies several areas in which research is needed to improve the basis on which child care policy is made by the federal government and states. To address these areas, we have identified several research designs that would be feasible given the current level of knowledge in each area. We have also identified the methodological and design issues associated with each. Our selection of research designs was informed by discussions with ACF and with several child care researchers. (Appendix A lists the individuals consulted regarding research designs for this report.) In addition, a meeting of child care researchers and policymakers sponsored by the Child Care Bureau October 27-28 provided additional information for this report.

We have proposed three different types of research designs to examine the questions summarized in the previous section. The first set of research designs are research demonstrations to test the relationship between child care and employment decisions, and more specifically, how policy changes can affect employment outcomes. These demonstrations would enable us to systematically vary certain child care policies for families by randomly assigning families to groups to which different policies are applied and by studying the child care choices and employment outcomes for these families. Because of random assignment to different child care policy groups, differences in average measured outcomes for different groups of families can be attributed to the differences in child care policy with a high degree of reliability. A second set of research designs would provide more information about child care providers and parents' child

care choices by expanding our descriptive, national-level data collection on child care issues. A third set of research designs would let us begin to explore topics about which we know very little. First, we would conduct small-scale studies in a limited number of communities and on a limited number of families or child care providers. Gradually, as we develop better measures and sharpen the research questions, the studies would be expanded to focus on more representative communities and populations.

The research designs proposed in this paper are summarized in Table 1.1. The table shows the type of research that is proposed — a research demonstration, national data collection, or a process study — and the research questions discussed in Section B that are addressed by each research design.

Each of the three chapters in this paper addresses a type of research methodology. In Chapter II, we discuss the designs for two different social experiments that would test the impacts of **specific policy** interventions on the economic decisions and the well-being of families and children. The first demonstration would test the effects of three changes on employment outcomes: a change in subsidy policy parameters (sliding fee scales and income eligibility limits), an improvement in information provision, and an improvement in the **administration** of subsidy programs. The second demonstration would test the effects on employment outcomes of offering flexible, reliable child care with quality variations (basic quality and high quality). For each demonstration research design, we present an overview and rationale, a description of how the research would be conducted, and a discussion of the strengths and weaknesses of specific alternative research design and implementation decisions. In Chapter III, we discuss ideas for expanding the database of national-level information about child care, including modifications to

TABLE I. I

SUMMARY CHARACTERISTICS OF THE PROPOSED RESEARCH DESIGNS

Characteristics of Research Designs	Proposed Research Designs							
	Research	Demonstrations	Descriptive Data Collection		Exploratory Studies			
	1.	2.	3.	4.	5.	6.	7.	8.
	Effect of Child Care Subsidy Policies on Employment	Effect of Flexible, Reliable, and Quality Child Care on Employment	Augmenting Existing National Data to Improve Child Care Research	National Study of the Supply and Demand for Child Care	Participation in Child Care Subsidy Programs	An Agenda for Research on Out-of-School Child Care	Development of Quality Child Care	An Evaluation of Employer Policies to Increase Job Flexibility and Child Care Flexibility
TYPE OF RESEARCH								
Basic National Data Collection			✓	✓	✓	✓		
Process Study I Focus Groups	✓	✓			✓	✓	✓	✓
Research Demonstration or Intervention Study	✓	✓						
RESEARCH QUESTIONS ADDRESSED								
What is the cost of child care for low-income families?	✓	✓	✓	✓	✓	✓		
How sensitive is employment to child care costs?	✓					✓		
What are the child care preferences of low-income parents?	✓	✓	✓	✓		✓		
How are child care subsidy policies in the states affecting low-income families?	✓			✓	✓			
What is the supply of child care, and how do providers react to child care policies?		✓		✓		✓		
How should we measure child care quality?		✓		✓		✓	✓	
How can quality child care be developed in low-income neighborhoods?		✓					✓	

TABLE I. I (continued)

Characteristics of Research Designs	Proposed Research Designs							
	Research Demonstrations		Descriptive Data Collection		Exploratory Studies			
	1.	2.	3.	4.	5.	6.	7.	8.
	Effect of Child Care Subsidy Policies on Employment	Effect of Flexible, Reliable, and Quality Child Care on Employment	Augmenting Existing National Data to Improve Child Care Research	National Study of the Supply and Demand for Child Care	Participation in Child Care Subsidy Programs	An Agenda for Research on Out-of-School Child Care	Development of Quality Child Care	An Evaluation of Employer Policies to Increase Job Flexibility and Child Care Flexibility
What is the effect of child care quality on employment?		✓				✓		
How much flexibility do mothers have in jobs, child care, and family situations?	✓	✓		✓				✓
How can public policy improve job and child care flexibility?		✓				✓		✓
How would greater job and / or child care flexibility affect employment?		✓				✓		✓

ongoing national household surveys, improvements in state administrative data on child care and welfare programs, and **periodically** repeating the national surveys on the supply and demand for child care, which were first conducted a decade ago. Chapter IV describes exploratory studies that would examine issues that are currently less well-understood, including participation in child care subsidy programs, the need for school-age child care to support employment, techniques for developing quality child care, and employer policies intended to improve the flexibility of jobs and child care for low-income parents. For each topic, we describe a sequential research plan that would begin by gathering information on a relatively small scale through process studies or focus groups and build toward a larger-scale project that would be more representative of child care providers or families in the U.S.

II. EXPERIMENTAL RESEARCH DESIGNS

Several of the child care questions outlined in the previous chapter pertain to the employment responses of families to certain child care policies or conditions. The best way to learn about these responses is to systematically vary policies and then measure the employment outcomes that result from this experiment. If families can be randomly assigned to different experimental child care policies, then families in each group will initially be very similar so that group differences that emerge over time can be attributed, with a high degree of confidence, to the differences in child care policies.

The cost, quality, flexibility, and reliability of child care arrangements have all been identified as problems for low-income parents seeking to maintain employment and become independent of welfare. This chapter describes experimental research designs that would enable us to test the impacts of policies intended to address each of these major child care issues — cost, quality, and flexibility/reliability of child care — in terms of a range of labor force, family, and child outcomes.

A. A DEMONSTRATION TO TEST THE LABOR SUPPLY EFFECTS OF SELECTED SUBSIDY POLICIES AND EFFICIENT PROGRAM ADMINISTRATION

States have a large degree of latitude in designing child care subsidy policies, and as a result, policies vary considerably across states. Major policies controlled by states (within broad guidelines set by federal legislation and regulations) include income eligibility limits, the structure of sliding fee scales, and maximum payment rates. These limits, fees, and rates tend to be set on the basis of equity considerations, state experience, and available funding. Unfortunately, they are not based on how they affect employment decisions because states do not

have information on this critical issue. States (and sometimes communities within states) also set policies governing ~~the~~ eligibility determination process and rules for paying child care providers for subsidized care. Therefore, depending on the state (or community), eligible families may readily access child care assistance, or they may experience a disruption in child care because of inefficient administration of the program.

Therefore, we recommend that a research study examine how increases in the generosity of state child care subsidy policies and better administrative practices would affect the employment decisions of low-income mothers. The design of such a study would involve four steps: (1) selecting communities within different states, where the communities (and states) have suitable characteristics; (2) identifying an appropriate group of low-income (welfare and nonwelfare) child care users in a given state; (3) randomly assigning these families to one of three groups -- an experimental group that receives 'a relatively generous subsidy, better information, and smoother program administration; a second experimental group that receives the state's normal child care subsidy but better information and smoother program administration; and a control group that receives the state's normal child care subsidy; and (4) following the child care choices and employment outcomes of the three groups over time.

The major research questions to be addressed by this demonstration include the following:

- How would a change in child care subsidy policies affect the employment rates, job stability, earnings, job flexibility, and self-sufficiency of low-income mothers?
- How would a change in child care subsidy policies affect the choice of child care, including type of care, hours of care, quality of care, parents' perceptions of quality and flexibility of care, cost of care, continuity of care, and other features?

- How would a change in child care subsidy policies **affect** family well-being, including income levels, parent's psychological well-being, child support, adult relationships **and** conflict, and parenting stress?
- How would a change in child care subsidy policies affect child well-being, including school readiness and performance, behavior, health, and involvement with the noncustodial parent?

This research project would also support a descriptive study of job characteristics and child care use by welfare recipients in several sites as they make the transition to employment.

We considered whether it would be possible to evaluate variations in child care subsidy policy by simply examining a nonexperimental contrast between states with different child care policies but decided against it because so many other factors vary across states that we could not be sure that differences across states could be attributable to the variations in child care policy. For instance, data are available on major TANF and child care assistance policies in the states [see, for example,; the Urban Institute's Assessing the New Federalism state database and National Child Care Information Center (1998)]. However, the policy variation and other differences between states leave us with too many potential sources of differences in outcomes between states. Changing child care policies experimentally *within* states will enable us to hold the other state conditions constant so that differences in outcomes can be attributed to the change in specific child care policies with a high degree of confidence.

1. The Intervention: Specific Policies to Be Tested

This research project could be designed to examine the effects of several different experimental policy changes on employment. Examples of such policy changes and a rationale for each type of change follows:

- ***Higher income eligibility.*** The state's income eligibility limit could be increased from an existing low level (for example, 120 percent of poverty) to a higher level (for example, 250 percent of poverty) on an experimental basis. This would extend policies to make child care more affordable to a broader population of low-income families.
- ***Lower Sliding Fee Scales.*** The state's sliding fee scales could be reduced from a relatively steep fee schedule to a more gradual increase in fees with increases in income on an experimental basis. In another variation, the fee scale could be reduced throughout the eligible income range without changing the slope. These policies would increase child care affordability by reducing what low-income parents pay for subsidized care.
- ***Change Type of Sliding Fee Scale.*** States that express the sliding fee as a percentage of the cost of child care could change the type of fee scale to a percentage of family income (a rate that varies only with family income, and not with the cost of child care). This option would essentially test the effect of eliminating the variation in the cost of child care to the family receiving subsidized care.
- ***Improve Information and Administrative Efficiency.*** Some states have administrative procedures that make it difficult for families to learn about the subsidy programs or to find out what they need to do to apply for the programs. Some states also have administrative rules that make it difficult for families to meet re-certification requirements and difficult for child care providers to receive regular, timely payments for subsidized care. This option would provide better information to parents and improve administrative efficiency so that disruptions in child care eligibility and payments will be much less likely.

We considered whether it would be useful to test policy options that would change the maximum payment rates for child care, since payment rates may **influence** the number of providers willing to offer subsidized child care. However, it is not clear how to implement an experimental policy regarding payment rates. If child care providers are not informed that maximum payment rates are being experimentally increased, then they will behave according to the current, less generous payment rate schedule, and we would not expect to see a change in behavior under the experiment. If providers are informed that some subsidized families will receive child care at a higher payment rate, then providers may seek out these families and refuse

to serve the others, even if they previously accepted the lower payment rate. A different basis for research on the effects of **variation** in payment rate levels must be devised.

Given the list of possible subsidy policy variations, which does it make sense to test? It would be best to develop a very short list of policy variations with the highest priority for testing because we would want to test each policy change in multiple sites in order to increase generalizability of the results. One criterion for selecting policies is to identify those that move states in what seems to be a positive direction from the perspective of encouraging work. Below we discuss a proposal and rationale for a subsidy policy that would move in such a direction. We also present a slight variation on this approach as well as several alternative interventions that might be tested.

a. Design and Rationale for Subsidy Policies That Could Promote Employment

Child care subsidies promote employment by reducing the cost of child care. Therefore, we recommend testing policy options that would reduce sliding fee scales and increase income eligibility limits so that low-income parents who enter the child care **subsidy program** can have relatively low child care costs throughout the period when earnings are low and child care costs are most likely to discourage work.

To promote employment, sliding fee scales must be affordable for low-income parents but should also gradually shift child care expenses from the state to the parent as income rises. Then, as parents approach the point at which they are income-ineligible for subsidies, they will be paying nearly all of their child care costs. Notches, or sharp increases in child care expenses with small increases in income, should be avoided because they cause a substantial decline in net income when gross income increases by a small amount; this is a deterrent to work. Designing

an ideal sliding fee scale therefore **also** involves choosing a **sufficiently** high income eligibility limit to avoid a notch. However, if we were to maintain sliding fees at 10 percent of income, and the cost of child care is \$5,000 per year, then we could only avoid a notch if families were eligible for child care subsidies until their **annual** income **reached** \$50,000 per year, which might be prohibitively expensive for states. An alternative strategy that would focus child care subsidies on the population most likely to show labor supply effects in response to the policies is to allow families to be eligible up to about \$30,000 per year.' The fundamental idea behind this strategy is that a notch at a relatively high income of \$30,000 per year would be acceptable because we expect that families in that income range have a strong attachment to the labor force, so their employment decisions would not be greatly influenced by variations in child care costs. If an income level other than \$30,000 seems to meet this criterion, we could choose that income level instead as the eligibility cutoff. An income level of \$30,000 per year corresponds to about 220 percent of the poverty line for a family of three. Sliding fees could be set at 10 percent of income (or lower for families with income below the poverty line).

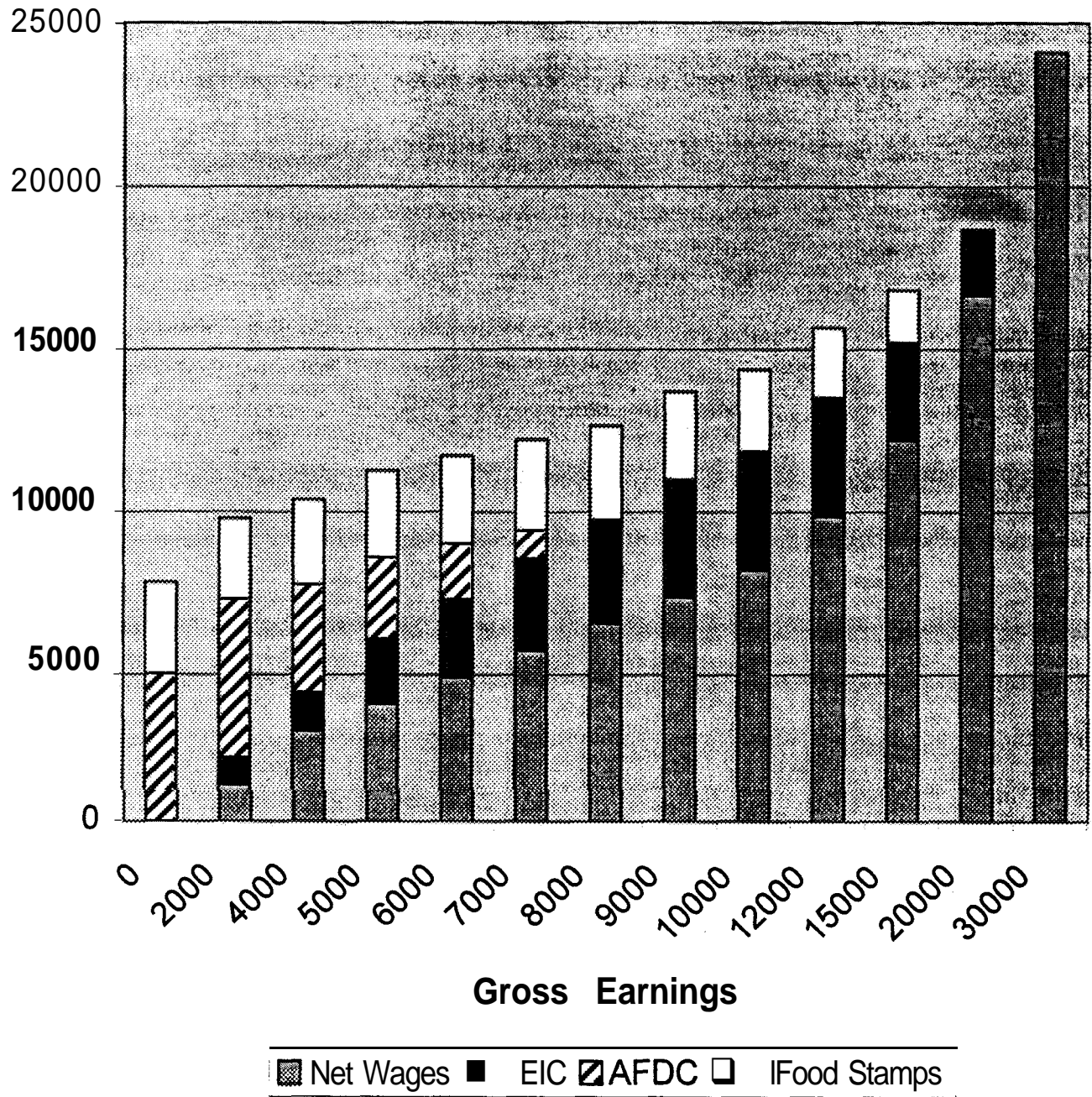
An additional consideration when designing the sliding fee scale is to recognize that, from the family's perspective, child care expenses are part of a package of earnings, tax, and transfer programs. It may therefore be best to consider the effect of child care sliding fees on family budgets in combination with the other tax and transfer policies (see Figure 11.1). Social security taxes on earnings are quite high, at 7 percent, while earnings are low, but they are offset to some degree by the Earned Income Credit (EIC), which is phased out fairly quickly, at a rate of 21.06 percent, as earnings rise from \$12,000 to \$29,000 per year for a family with two children (U.S. House of Representatives 1998). Welfare benefits and food stamps are available for families with very low incomes but phase out quickly as earnings rise to the poverty line and just beyond.

The Food Stamp phase out rate is 33 percent. Figure II.1 shows the composition of income as earnings rise and as **transfer** programs are introduced and then phased out, for a mother of three in Pennsylvania. The effect of phasing out a package of transfer benefits by the point at which income reaches about \$30,000 per year is high marginal tax rates at many points along the income scale. Marginal tax rates are at least 40 percent over many income ranges and are at least 60 percent as income rises from \$12,000 to \$20,000 per year (see Figure 11.2). Thus, over some income ranges, the marginal tax rate is very high. If the child care sliding fee scale is also designed to be very steep over this income range (which is true in many states), the work disincentives may be substantial.

Therefore, we would recommend experimenting with a relatively low sliding fee over the full range of eligible incomes to avoid work disincentives until the family becomes ineligible for child care subsidies at about \$30,000. If the child care benefit of about \$5,000 per year is phased out smoothly over the annual income range between \$5,000 to \$30,000, it would require a benefit reduction rate of 20 percent. If we instead try to keep the child care benefit reduction rate very low, for example, at 5 percent, then we would create a notch at \$30,000 that would tend to discourage work effort, unless we believe that child care costs have little effect on work effort at this income level. If we decide to test the policy that maintains a very low child care benefit reduction rate and a notch at \$30,000, it would be interesting to contrast that policy against one that avoids the notch but instead allows the sliding fee to rise quickly, after being relatively constant at lower incomes, as families approach the income eligibility cutoff.

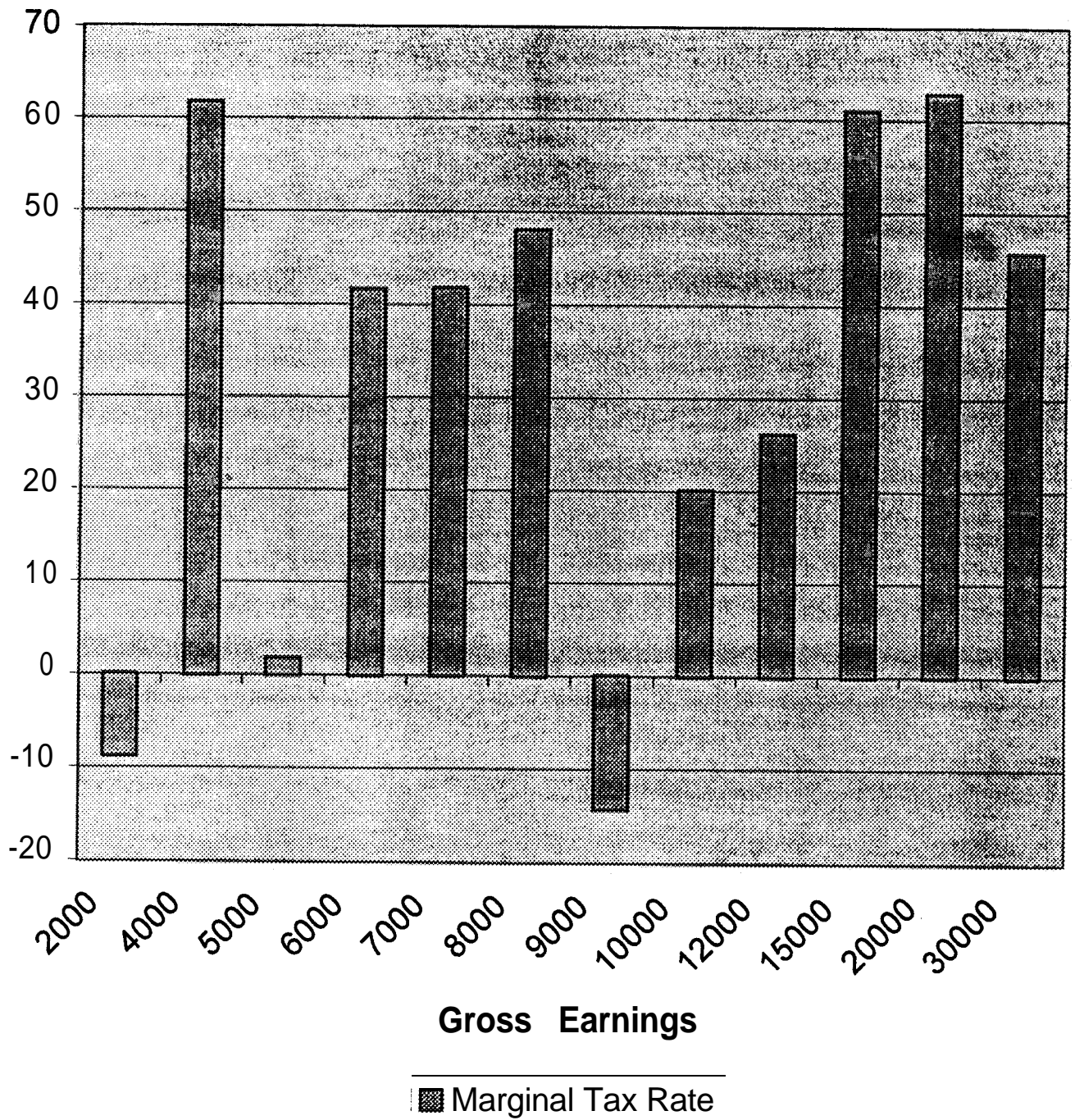
FIGURE 11.1

**DISPOSABLE INCOME AT VARIOUS WAGE LEVELS
BEFORE CHILD CARE EXPENSES, MOTHER OF
THREE, PENNSYLVANIA, JANUARY 1997**



Source: Based on calculations by the Congressional Research Service U.S. House of Representatives 1998), pp. 408-409.

FIGURE 11.2
MARGINAL TAX RATE AT VARIOUS EARNINGS
LEVELS BEFORE CHILD CARE EXPENSES, MOTHER
OF THREE, PENNSYLVANIA, JANUARY 1997



Two other features of subsidy policies vary considerably across states and may have important impacts on employment stability. First, the amount of information that welfare recipients and low-income working families have about the availability and value of child care subsidies ranges from very extensive to none at all (Meyers 1996). Second, the administrative ease with which families are enrolled in subsidy programs, and with which their eligibility and payments are maintained over time also varies substantially across states. In some states, eligibility and payment procedures work smoothly and efficiently, while in others, families may have difficulty applying for subsidies, providers may be paid late, and eligibility may be cut off without warning for failure to follow a procedure that the family only poorly understood. It is possible that better information and more efficient and “customer-friendly” administrative procedures might smooth receipt of subsidies for families who need them, and this, in turn, may do more to stabilize employment than any change in the financial parameters of the program.

b. A Cash Alternative to Child Care Subsidies

Another possible approach to testing alternative child care policies is to use a design similar to the Negative Income Tax experiments, in which families were given cash on a monthly basis that was related to their earnings levels and reflected different policy decisions regarding the size of the income guarantee and the rate of benefit reduction with respect to earnings. Providing families with a monthly cash amount would simplify the policy analysis to focus on the effect of a child care subsidy amount that varies with income, rather than the effect of different levels of maximum payment rates and sliding fees. Because the child care subsidy in the current system is the difference between the maximum payment rate and the sliding fee, different levels of

maximum payment rates and sliding fees may imply the same subsidy level even when payment rates and fee scales are different.

However, most states do not provide the child care subsidy as a simple cash payment to parents, in part, because political support for a child care subsidy depends on assurances that the money will be used for child care expenses. And cash payments cannot be so earmarked. Moreover, providers would be less willing to serve low-income parents receiving cash subsidies because the providers would be concerned that families with limited income would not use the cash subsidy to pay them on a regular basis. Therefore, we do not recommend using cash subsidies as the experimental child care policy.

c. **Recommended Interventions**

We recommend testing two or three policy variations in each site. One policy variation would provide low sliding fees throughout the range of eligible incomes and increase income eligibility to about \$30,000, or about 220 percent of poverty. A second policy variation would be to provide clear information about eligibility for child care benefits and **simplify** eligibility and provider payment procedures to make the program more accessible and efficient. Thus, one experimental group would operate under the current set of sliding fees and income eligibility limits, but with better information and administrative practices, allowing us to test the effects of these administrative factors on employment. A second experimental group would be offered low sliding fees and higher income eligibility limits, along with better information and administrative practices, allowing us to test the additional impact on employment of more affordable child care subsidy policies. An additional group of families not experiencing either change would be used as a comparison with the other two groups. This design would allow us to test both the

administrative/informational issues as well as a change in the sliding fee scale and income eligibility limit that may offer more incentive to work.

Two variations in this design would be possible while continuing to test the impact of informational and administrative reforms and the effect of more affordable subsidy policies. First, an intermediate sliding fee schedule could be tested to measure the impacts of policies that would be less expensive for states. (This intermediate sliding fee schedule would fall somewhere between the average sliding fee schedule in the states and the more affordable sliding fee schedule that was proposed.) Second, the interventions could be designed to separately test the effect on employment of increasing the income eligibility limit (extending the state's old sliding fee schedule through the new income range) and the effect of decreasing the sliding fee scale along with increasing the income eligibility limit.

Another possible design variation is to randomize one group to receive no child care subsidies, and two other groups to receive subsidies under the old and new policies, respectively. Many low-income families who are eligible for child care assistance do not receive help paying for child care, so it would be important to contrast the experiences of this group with the others. As long as the state involved in the demonstration cannot serve all of the eligible families, it would be ethical to identify a "no subsidies" group for research purposes. It would be possible to define this group as "no subsidies for a specified period of time (for example, two or three years)" in order to increase the acceptability of such a research group and to allow the intervention to last sufficiently long to test its effects. Including a group of families who were randomly assigned to receive no subsidies would enable us to study labor supply effects of no subsidies, which is important because a large proportion of low-income working families and welfare families do not receive subsidies.

However, each new experimental group increases the sample size necessary for the demonstration by a large amount (see Section A.3). Therefore, it would be a more efficient use of research funds to choose only those experimental options that are likely to teach us a lot about the relationship between alternative policies and outcomes. Small variations in subsidy policy parameters may not individually have a very substantial effect on employment, so it may be more cost-effective to choose a single set of subsidy policies that is expected to have strong effects on employment, contrasting that option with improvements in administration, which are also expected to have strong effects.

2. Target Population and Sampling Strategies

The target population for this demonstration is low-income parents who are making the transition from welfare to work. Because of the strong economy and the current welfare policy emphasis on self-sufficiency, many of the parents who are “making the transition” to work are currently employed. These are the people who were previously receiving welfare and who might return to welfare in the event of job loss or other crisis. Therefore, the child care subsidy policy to be examined in this demonstration would be offered to two groups of families: those receiving welfare (the welfare sample) and those who are not on welfare but who have low income (the low-income sample). The latter group will consist primarily of parents who are employed, but ideally, parents targeted by the sampling strategies discussed below will have a tenuous attachment to the labor force. Many of these parents will have been former welfare recipients and/or would be expected to receive welfare at some time in the future in the absence of the experimental child care policies.

In this section, we describe various strategies for recruiting both types of families. We will also discuss how the **choice** of recruiting strategy may influence the ease and costs of implementation, the **efficiency** of the sample for addressing the research questions, and the types of questions that can best be addressed by a demonstration using each type of sample.

The welfare sample will consist primarily of single parents, and most of them will be single mothers. For the low-income sample, however, a decision must be made about whether to recruit all types of families or only single parents. Each of these strategies has advantages and disadvantages. Recruiting a broader set of families would increase the generalizability of the results and allow researchers to address additional questions, such as whether subsidy policies influence single-parent and two-parent families differently. For example, the presence of two parents may influence child care choice and stability in employment. On the other hand, studying a **sample** consisting entirely of single parents would focus the research on the group that has been at the center of the welfare reform debate. In addition, single parents may have greater child care needs and be more likely to participate in the child care subsidy program, since they are likely to have fewer informal child care options. These considerations would need to be weighed in the design phase of the demonstration.

A related issue is how to restrict the sample with respect to the age of children. Restricting the sample to families with young children (under 4 years) would focus the research on those families with the most difficult child care challenges and most in need of child care help over the immediate follow-up period for a child care demonstration. Including families with older, school-age children as well would broaden the scope of research that could be carried out with demonstration data. We recommend that the families selected for the demonstration have a child under 4 years old to focus the research on families with the highest potential child care costs and

to allow at least a year to follow families who would need to arrange child care to cover all of the parents' work hours. Many of these families would also have school-age children so that, if there is sufficient interest, the child care issues for older children could be examined. We would not recommend narrowing the rule for the age of youngest child much more than this because this may make it difficult to recruit a large enough sample, but the degree to which restricting the age of youngest child would complicate sample recruitment would ultimately depend on the size of the community in which the demonstration is operating.

a. Welfare Sample

The key issue in selecting a welfare sample for the demonstration is to select the point in time at which welfare recipients should be chosen, randomly assigned into treatment and control groups, and offered a child care subsidy. There are three options: (1) the point at which families enter the welfare system, (2) the point at which families reach a job-ready stage, and (3) the point at which families enter employment and apply for child care subsidies. We discuss these points from the perspectives of which research questions would be best addressed by the random assignment design and which points offer the most operationally feasible basis for random assignment.

If random assignment occurs at welfare entry, with families receiving a clear explanation of their child care benefits at the outset, the demonstration will be designed to answer research questions about the effect of the child care interventions on entry into employment. However, random assignment at welfare entry is a weaker design if our primary interest is in employment retention, because the child care interventions may affect employment entry. Since the composition of the group of employed parents would thus be affected by the intervention, it

would not be possible to use the random assignment design to look at effects of child care on the stability of employment, earnings over time, and other employment outcomes that depend on employment entry. On the other hand, an advantage of welfare entry as the random assignment point is that it is a well-defined point in the flow through the welfare system, so random assignment could be implemented easily and with a high degree of integrity.

Another option for the random assignment point is to assign families to child care benefits when they reach the job-ready stage and visit the welfare office to discuss employment plans with a case manager. The exact point of random assignment would depend on how families move through the welfare system, which would vary across states and possibly, across communities. In general, however, states may vary according to the emphasis they place on quick entry into jobs or an employment-related activity. States that place a strong emphasis on quick entry into jobs or related activities may be able to identify a random assignment point that would be close to job entry.

If random assignment were to occur sometime during job readiness activities, the demonstration may still be best designed to address research questions about entry into employment. However, the later the point in the process that random assignment occurs, the more likely that families in the demonstration will be so close to entering employment that the child care intervention will have little or no impact on job entry. If random assignment occurs close enough to employment entry, then questions about job retention and other employment outcomes can be addressed.

A drawback to selecting a point in the job readiness process for random assignment is that this point may be less well-defined than welfare entry. If the random assignment point is not well-defined but determined at the discretion of the case manager, the integrity of random

assignment can be threatened by gaming behavior on the part of case managers who are aware that random assignment will occur at a particular point in the process. Another problem with selecting a point in the job readiness process for random assignment is that this point may differ across communities, so the characteristics of the sample of families entering the demonstration would be very different. Moreover, finding a point for random assignment during the job readiness process may not be operationally feasible in some communities.

A third option for the random assignment point is to enroll families who have found a job and are applying for a child care subsidy. This option would provide the strongest basis for using the random assignment design to examine questions of employment retention and related issues that depend on being employed. The point of application for child care subsidies is also a well-defined point for random assignment that will ensure the integrity of the random assignment system. However, to ensure that the families entering the child care demonstration are broadly representative of the families leaving welfare for employment, all families receiving welfare would need to be well-informed about the availability of child care subsidies and how to apply for them. Otherwise, the group of welfare recipients enrolling in the demonstration would likely be those who are more skilled than other welfare recipients in finding employment, more savvy about benefits available to them (like child care subsidies), and more in need of child care assistance.

Since all welfare recipients would need to be well-informed about the availability of child care assistance and how to apply for it, random assignment at the point of application for subsidies would also preclude studying the effect of subsidy policies on entry into child care programs. However, it would still be possible to examine how differences in information and program administration following child care program entry **affect** parents' ability to maintain

their child care arrangements and employment over time. Another possible way to test the effect of information and administrative simplicity on child care program participation and employment over time would be to choose a different community in the state that has similar characteristics, but where information and program administrative practices will not be changed. This community could provide a control group for the demonstration. The disadvantage of this strategy is the difficulty of finding a valid comparison community. Another possibility is to use different welfare and child care program offices within the same city to provide the contrast in administrative and information practices. In this case, the sample of families in the experimental groups would be more similar, and labor market and other community characteristics would be more similar than if different communities were used..

b. General Low-Income Sample

Examining a more general sample of low-income parents who do not receive welfare is useful for at least two reasons. First, although the members of this sample will not currently be receiving welfare, they may have received welfare in the past or may do so in the future. Thus, although they may not currently face the problem of finding adequate employment and child care, they are at risk of leaving their current job, entering welfare, and facing these employment/child care problems in the future. Second, even low-income parents who will never receive welfare face many of the same problems with finding and maintaining high quality, flexible, and affordable child care arrangements as do welfare recipients. Child care subsidy programs are, in fact, intended for both those leaving welfare and the working poor.

The sample of interest among low-income parents includes those who are currently employed but who have a tenuous attachment to employment and/or those who are not currently

employed but who are looking for work. As was the case with welfare recipients, the random assignment point **influences** the questions that can be addressed. We discuss two approaches to identifying low-income, non-welfare families that involve tradeoffs in terms of the point of random assignment that are similar to those discussed for the welfare sample.

One way to draw a low-income sample would be to use random-digit-dialing (RDD) methods in telephone exchanges from low-income neighborhoods. Interviewers would sample phone numbers **from** these exchanges and conduct screening interviews to identify whether the number reaches a household or a business, and then, if it is a household, whether the family has low income, a child under 4 years old, and is not receiving welfare. If the household is eligible for the demonstration, the interviewer would assign the family randomly to one of the experimental groups, offer the appropriate child care benefit, conduct a short baseline interview, and collect some contact information to aid in future follow-up survey tracking. The offer of child care benefits would include encouraging the family to apply for those benefits if they are employed (and not currently receiving them) or to apply when they became employed.

A drawback of this approach is that random assignment would occur at ‘a range of points in the process of moving into jobs. Therefore, many families who were identified as eligible for the child care demonstration may not obtain jobs or use the experimental child care benefits. In addition, it is expensive to use RDD methods to obtain a sample of this type. Finally, the **low-**income sample obtained through RDD methods would not be comparable to the welfare sample, so it would not be possible to combine the two samples for analysis. Therefore, samples of both the welfare and the low-income groups would need to be large enough to detect meaningful impacts of the demonstration, which could add to the cost of the demonstration.

An alternative strategy would be to sample nonwelfare low-income parents when they apply for child care subsidies. -Since this was also described as an option for welfare recipients, the same sampling strategy could conceivably be used to select both samples of interest, and if so, it would be possible to combine the welfare and low-income samples in the analysis. However, to ensure that a sufficiently broad sample of low-income parents enters the demonstration, it would be important to consider extensively promoting the availability of subsidies throughout target low-income neighborhoods. The idea would be to draw in many low-income parents as they were **first** getting jobs and also attract other low-income parents who were already employed but perhaps struggling with child care arrangements. Unfortunately, using an information campaign to bring families into the child care **office** would decrease the ability to test the effect of better information about subsidy policies on employment outcomes. However, we could still develop strategies for varying the amount of information and administrative efficiency once the family has entered the child care assistance program, and examine how well **families** maintain child care assistance and employment over time.

With this sample, analysts could study the effects of the child care subsidy policy of interest on job retention. Care would have to be taken to gain state and local community cooperation, since the promotion of child care subsidies would have an unknown effect on participation in the program and could increase program costs substantially.

3. Key Outcomes and Sample Size Considerations

The key relationships of interest in this demonstration are between the child care subsidy policies, and the employment outcomes and child care choices of low-income parents. In this section, we describe employment and child care outcomes that could be tracked as part of the

demonstration, and we discuss sample size considerations, including how large samples would need to be to discern meaningful impacts of changes in subsidy policy.

Outcome measures could be obtained from a combination of administrative data from welfare and child care programs, Unemployment Insurance earnings data, and periodic surveys of parents in the sample. The administrative data could provide very basic measures of employment, welfare program participation, and child care program participation, but survey data would be needed in order to obtain detail about characteristics of jobs and child care arrangements. Because we would expect families to obtain jobs and make child care choices within a relatively short period after they receive information about the child care policies available to them, we would recommend conducting a survey within 12 to 18 months of enrollment in the demonstration. The earlier survey point would be preferable if random assignment occurs very close to or at the point of obtaining employment. while the later survey point would be preferable if random assignment occurs earlier in the flow from welfare to work.

To provide information that is useful in identifying subgroups of families in the analysis, we also recommend a short baseline survey, which could be completed as part of intake and random assignment. The baseline survey would also include contact information that would reduce the cost of locating families for future follow-up surveys.

a. Main Employment and Child Care Outcomes

The child care subsidy available to low-income parents can influence employment outcomes in a variety of ways. The key employment outcomes include initial time to employment among welfare recipients and various measures of employment retention and stability among low-income working parents. As we discussed in the previous section, if the random assignment

point is early in the flow from welfare to employment, the random assignment design can be used to examine the **effects** of the experimental child care policies on employment entry and initial characteristics of jobs. If the random assignment point is closer to the time low-income parents obtain jobs, then the random assignment design can be used to measure the effects of the experimental child care policies on job retention.

A child care intervention that occurs early in the job search process may affect several initial employment outcomes. For instance, the availability of generous subsidies may encourage and/or allow low-income parents on welfare to find employment more quickly and work for more hours than they otherwise would. The subsidies may influence the initial characteristics of the jobs that welfare recipients take, such as wages, occupation, or fringe benefits, but the directions of such effects are not clear.

Table 11.1 provides a list of potential outcomes that could be examined as part of an evaluation of the effects of experimental child care policies. We discuss the employment outcomes in this section, but the table lists illustrative outcomes in the areas of child care choice, parent and family well-being, and child well-being, which relate to the research questions listed earlier in this section.

Time-to-employment measures reflect how quickly welfare recipients find jobs (following either their initial orientation or job-readiness determination). Other key outcomes reflecting initial job characteristics include hours worked and weekly earnings. In addition, information on wages, fringe benefits, occupation, and the percentage of people whose jobs involve irregular shift work would add detail about the characteristics of jobs obtained by welfare recipients with and without access to more generous child care subsidies.

TABLE II. 1

ILLUSTRATIVE OUTCOME MEASURES FOR A CHILD CARE
POLICY DEMONSTRATION

Employment	
<p>Time to Employment</p> <p>Percentage employed within 6 months</p> <p>Percentage employed within 12 months</p> <p>Percentage employed within 24 months</p> <p>Characteristics of Initial Job</p> <p>Wage (\$/hour)</p> <p>Hours per week</p> <p>Weekly Earnings</p> <p>Shift work (percentages)</p> <p style="padding-left: 20px;">Regular</p> <p style="padding-left: 20px;">Evening/night</p> <p style="padding-left: 20px;">Variable</p> <p>Fringe benefits</p> <p style="padding-left: 20px;">Health insurance</p> <p style="padding-left: 20px;">Life insurance</p> <p style="padding-left: 20px;">Paid vacation</p> <p>Occupation</p> <p>Earnings Growth</p> <p>Conditions, in first year after job start</p> <p style="padding-left: 20px;">Wage (\$/hour)</p> <p style="padding-left: 20px;">Hours worked per week</p> <p style="padding-left: 20px;">Weeks worked</p> <p style="padding-left: 20px;">Annual earnings</p> <p>Conditions five years after job start</p> <p style="padding-left: 20px;">Wage (\$/hour)</p> <p style="padding-left: 20px;">Hours worked per week</p> <p style="padding-left: 20px;">Weeks worked</p> <p>Change in earnings (percentages)</p> <p style="padding-left: 20px;">First year to second year</p> <p style="padding-left: 20px;">First year to fifth year</p>	<p>Employment Stability</p> <p>Percentage employed each month after job start</p> <p>Average percentage of weeks employed during first two years after job start</p> <p>Average percentage of weeks employed during first five years after job start</p> <p>Distribution of weeks employed during first two years (percentages)</p> <p>Distribution of weeks employed during first two years (percentages)</p> <p style="padding-left: 40px;">Less than 25%</p> <p style="padding-left: 40px;">25% to 50%</p> <p style="padding-left: 40px;">50% to 75%</p> <p style="padding-left: 40px;">More than 75%</p> <p>Employment Patterns</p> <p>Length of initial employment spell (%)</p> <p style="padding-left: 40px;">Less than 4 months</p> <p style="padding-left: 40px;">Less than 12 months</p> <p>Time until reentry into employment after initial spell ends</p> <p>Number of employment spells during first two years following initial job start</p> <p>Reasons for ending employment spells</p>

TABLE II. 1 (continued)

Child Care	
Percent Ever Used Child Care	Parent's Rating of Child Care Quality
Center Care	Warmth
Nonrelative home-based care	Rich environment
Relative Care	Skilled caregiver
	Talk and Share
Hours Per Week in Child Care	Accepting and supportive
	High risk care
Stability	Child safe and secure
Number of providers concurrently	Child getting along socially
Number of providers in past 6 months	
Child Care Cost	Other Parent Ratings of Child Care
Price of child care	Satisfaction
Cost of child care to family	Continuity of care
Subsidy amount	Child's special needs
Transportation time to child care	Difficult work schedule
Share of earnings spent on child care	Affordable Care
Share of family income spent on child care	
Employment Problems Attributable to Child Care	Flexibility
Lost hours of work	Work
Lost days of work	Caregiver
	Family
Reasons for work interruptions	Professional Quality Ratings
Provider illness	Quality of caregiver
Child care setting closed	Caregiver-child interactions
Need to find new provider	
Sick child	Safety and health
Couldn't pay provider	Caregiver education
	Training and experience
Lost job or employment opportunities	Child - staff ratios, group size
	Global Quality Ratings
	Cultural and language environment
	Caregiver's detachment, sensitivity, harshness

TABLE II. 1 (continued)

Parent's Welfare Program Participation	
Months received welfare	Food Stamp amount
Monthly welfare amount	Subsidized housing
Medicaid eligibility	Number of times returned to welfare
Parent's Well-Being	
Literacy and Education	Social and Psychological Well-Being
Literacy skills	Social support
Educational attainment	Marital status
	Major life events
	Depression
	Self-efficacy
Health Status and Health Care	Parenting Skills and Practices
Health status	Knowledge of child development
Health insurance coverage	Parenting practices
Health care utilization	Parent-child relationship
Medical home	Child abuse or neglect
Substance use	
Father Involvement	Home Environment
Contact with father	Quality of home environment
Activities with father	Neighborhood characteristics
Child support	Household composition and stability
	Family conflict
	Family routines
Child's Well-Being	
Cognitive Development	Social Well-Being
Receptive vocabulary	Prosocial behavior
Expressive vocabulary	Self-concept
School readiness	Compliance with parent
Attention during assessment	
Emotional Well-Being	Health Well-Being
Self-regulation	Health status
Behavioral problems	Well-child visits
	Use of emergency room for care
	Hospitalization for accidents

However, a more important effect of child care subsidy policy may be on the job retention or employment stability of low-income parents. Employment stability outcomes include measures of individuals' levels and patterns of employment over a given follow-up period. For example, the level of employment could be measured by monthly employment rates after the individual began their first job. An alternative way of looking at employment stability is to examine the employment patterns of low-income parents. How long is their initial employment spell? How quickly do they return to a job after their initial employment spell ends? How many spells do they have in total over a given period? Rangarajan, et al. (1998) found that nearly half (45 percent) the employment spells are very short, ending within 4 months, though most people whose employment spells end are back in other jobs within a year (53 percent). (Rangarajan, et al. (1998) examined employment outcomes for welfare recipients who found jobs during the period from 1979 to 1994.) Earnings growth is another plausible outcome, since a generous child care policy that positively influences the hours low-income parents work and their employment stability may also lead to larger earnings growth over time. Thus, another set of outcomes that could usefully be examined would measure the degree to which earnings increase over time for low-income parents who get jobs. Among welfare recipients who obtained jobs during the period 1979 to 1994, Rangarajan et al. (1998) found that there was a sizable increase (33 percent) in earnings during the first five years following the start of the first job.

Child care choices are another important set of outcomes that would be-examined as part of the impact analyses. We would expect more generous child care subsidies and more efficient child care program administration to increase the proportion of eligible families who participate in child care subsidy programs. Families participating in child care subsidy programs would be more likely to choose center-based care because the subsidy makes it more affordable. These

families would also be more likely to continue in their child care arrangements for longer, use child care for more hours-per week, and use child care for a greater number of months.

Table II.2 shows key child care outcomes that were measured as part of the Teenage Parent Demonstration (TPD) evaluation. The TPD evaluation looked at the effects of mandatory school and work requirements on a sample of first-time welfare recipients who entered welfare as teenagers. The table shows impacts measured on selected child care variables, including whether child care was ever used and the percentage of mothers using center-based care, nonrelative home-based care, or relative home-based care. TPD was not a child care demonstration, but case managers did try to provide mothers with the assistance they needed, including financial assistance, in order to find child care so that they could attend school, work, or training. Case managers did not offer a more generous package of financial assistance than was already available in the state. In addition, the mothers enrolled in TPD had younger children and were younger, on average, than we would expect the children and mothers eligible for the proposed child care subsidy demonstration to be. Therefore, we would expect the child care subsidy demonstration to have greater impacts on choice of care than TPD did.

b. Sample Size Considerations

Given this design, an important question involves how large a sample is necessary to detect substantively important effects of the treatment across the demonstration sites. In other words, what *are the minimum detectable impacts* of demonstrations using various sample sizes? If the

TABLE II.2

KEY CHILD CARE OUTCOMES FROM THE TEENAGE PARENT DEMONSTRATION

Child Care Outcome	Control Group		Estimated Impact	
	Lowest	Highest	Lowest	Highest
Two-Year Follow-Up Estimates				
Percent ever used child care	54.8	70.2	6.9	14.3
Percent of families using child care who used center care	10.2	16.2	3.5	8.0
Percent of families using child care who used nonrelative home-based care	20.1	16.2	-2.3	1.0
Percent of families using child care who used relative care	76.1	76.9	-1.6	-5.9
Four-Month Follow-Up Substudy				
Percent in activities (job, school, or training)	31.3		18.5	
Percent of all mothers who are using child care	31.0		19.0	
Percent of all mothers who are using center care	2.2		2.0	
Percent of all mothers who are using nonrelative home-based care	4.6		5.1	
Percent of all mothers who are using relative care	24.5		10.0	

SOURCE: For four-month follow-up substudy: Kisker et al. 1990. For two-year follow-up estimates: Maynard et al. 1993.

"The Teenage Parent demonstration operated in three sites. Maynard et al. (1993) present estimates separately for each site. Therefore, we have reproduced on this table the lowest and highest of the three site estimates for the control group mean and the estimated impacts.

sample that is analyzed is too small, then the estimated impact on employment outcomes will likely be statistically insignificant even if the true effect is substantial. As the sample size grows, the likelihood that the estimate of this substantial impact will be statistically significant also grows. However, costs will also increase as the sample size grows, so we would like to select a sample that is small enough to keep costs to a reasonable level but large enough to yield an estimate of any substantively important impact that is likely to be statistically significant.

To find this “preferred” sample size, we assess the statistical properties of various sample sizes that could be used in a child care subsidy demonstration. We assume that we will pool the sample across sites for analysis, although it would also be useful to estimate impacts for individual sites to understand the aggregate results better. We also assume an equal number of treatment and control group members because this sample mix generates the most precise impact estimates, although this assumption could easily be relaxed.

The sizes of minimum detectable impacts depend on three factors: (1) the sample sizes used in the estimation, (2) the standard deviation of the employment outcome being studied, and (3) the parameters chosen for the statistical tests that will be used? Minimum detectable impacts will be larger if sample sizes are smaller, outcomes are highly variable, or statistical tests with great power and high levels of confidence are used. In addition, since low response rates would lead to smaller samples, this would also lead to larger minimum detectable **impacts**.³

Table II.3 shows potential sample sizes for the demonstration along with minimum detectable impacts for a binary employment outcome with mean values of 0.50, 0.60 (or 0.40), and 0.70 (or 0.30). These values would be reasonable monthly employment rates during the

TABLE II.3

SAMPLE SIZES AND MINIMUM DETECTABLE IMPACTS

Sample Size		Mean of Employment Rate Outcome	Minimum Detectable Impact of Subsidy Increase (percentage points)
Treatment Group	Control Group		
250	250	0.50	11.1
250	250	0.60 / 0.40	10.9
250	250	0.70 / 0.30	10.2
500	500	0.50	7.9
500	500	0.60 / 0.40	7.7
500	500	0.70 / 0.30	7.2
750	750	0.50	6.4
750	750	0.60 / 0.40	6.3
750	750	0.70 / 0.30	5.9
1000	1000	0.50	5.6
1000	1000	0.60 / 0.40	5.4
1000	1000	0.70 / 0.30	5.1
1500	1500	0.50	4.5
1500	1500	0.60 / 0.40	4.4
1500	1500	0.70 / 0.30	4.2
2000	2000	0.50	3.9
2000	2000	0.60 / 0.40	3.9
2000	2000	0.70 / 0.30	3.6

NOTES: Minimum detectable impacts assume a simple difference of means estimator and are calculated assuming a one-tailed t-test with 80 percent power and a 95 percent confidence level.

several-year period following the start of an initial job for a low-income parent. To calculate minimum detectable **impacts**, we assume that a one-tailed t-test of differences between treatment and control group mean outcomes would be performed at a 95 percent confidence level with a power of 80 percent. We also assume that the treatment impact would be estimated with a simple difference of means **estimator**.⁴

The minimum detectable impacts are expressed in terms of percentage points. Thus, for a total sample of 1,000 split evenly between treatment and control group members, the minimum detectable impact of the treatment on a binary employment outcome with a mean of 0.50 would be 7.9 percentage points. In other words, we would expect to be able to detect the impact of a treatment that led to an increase in the employment rate from 0.50 to 0.579 (or an approximately 16 percent increase). If the true impact was only 5 percentage points, or 10 percent, we would not expect this design to be able to detect it (that is, the estimated impact would be relatively likely to be statistically insignificant).

Actual sample sizes for the demonstration would need to be larger in order to ensure that the completed sample size reaches the numbers shown in this table. The table shows that as the sample increases from 500 (including 250 treatment and 250 control group members) to 4,000, the minimum detectable impact for a binary outcome with a mean value of 0.60 falls from 10.9 percentage points (about 18 percent) to 3.9 percentage points (6.5 percent). The minimum detectable impacts for an outcome with a mean value of 0.50 are similar to these impacts, but the minimum detectable impacts are slightly lower for binary outcomes with a mean value of 0.70.

Given these minimum detectable impacts, what is a reasonable sample size for a demonstration involving an increase in the child care subsidy given to low-income parents? The answer to this question depends in part on exactly what policy change is being studied in the

demonstration. If the policy change involves a large increase in child care subsidies going to low-income parents (and a resulting decrease in their child care costs), we would expect the resulting impact of the policy change on the employment outcome being studied to be relatively large. Thus, the sample needed to study this type of policy change would not be as large as the sample needed to study a smaller expected change in child care subsidy policy.

Currently, child care subsidy policies lead to child care fees for low-income parents that range from nothing (or almost nothing) to several hundred dollars a month. In Alabama, for example, fees range from about \$20 a month to about \$290 a month (National Child Care Information Center 1998). Similar ranges in other states include \$8 to \$220 in Illinois and \$22 to \$491 in Minnesota.⁵ If we assume that a reasonable policy to test in the demonstration would require low-income parents to pay no more than 10 percent of their monthly income for child care, this would lead to a decrease in the fees charged to parents at the upper end of the fee range. In particular, the upper limit on monthly fees would fall to about \$144 in Alabama, \$182 in Illinois, and \$286 in Minnesota. The corresponding percentage decreases are 50 percent in Alabama, 17 percent in Illinois, and 42 percent in Minnesota. Selecting a fee decrease between the lower bound of Illinois and the upper bound of Alabama, and taking into account the fact that such a policy change might lead to smaller fee decreases for parents whose incomes did not put them at the top of the eligible income range, we believe that it is reasonable to think about testing a policy that would involve a decrease in low-income parents' child care fees of about 25 percent.

Research on the relationship between child care costs and employment outcomes can give us some idea what the true impact of this proposed 25 percent decrease in child care fees to low-income parents might be. Two studies have examined the relationship between a family's child

care expenditures and mothers' employment rates. The General Accounting Office (1995) found an elasticity of -0.50 for poor mothers and -0.34 for near-poor mothers. Kimmel (1995) found an elasticity of -0.35 for poor single mothers. Kimmel's estimate implies that a 25 percent decrease in child care expenditures would lead to an 8.75 percent increase in poor single mothers' employment rate. If the base employment rate of this group is 60 percent, an 8.75 percent increase amounts to an increase of 5.25 percentage points.

Thus, research suggests that the policy described above might have a true impact of 5.25 percentage points. Table II.3 shows that a sample of 1,000 treatment and 1,000 control group members would not be able to detect this impact with sufficient power (since its minimum detectable impact is 5.4 percentage points). To generate a minimum detectable impact of 5.25 percentage points with 80 percent power, a sample of 1,076 per group would be sufficient. If we have three groups (one control group and two treatment groups) we would need a total sample of 3,228.

We may also want to measure minimum detectable impacts of the demonstration on outcomes that are continuous rather than binary, such as mean wages or hours worked per week in a low-income parent's initial job. According to Rangarajan et al. (1998), welfare recipients finding jobs end up working an average of 32 hours a week and earn about \$6.50 an hour on average. With a sample size of 1,076 per group, the minimum detectable impacts of the demonstration would be 1.61 for hours worked and \$0.32 for wages (both effects of about 5 percent).⁶ These sample sizes generate impact estimates that are reasonably precise.

Another issue worth considering before selecting a final sample size is whether the sample will be spread across multiple sites and, if so, whether these samples will be pooled before making impact estimates. For example, if a total sample of 3,228 is pooled across four sites, then

the sample within a site will be only 807, and the minimum detectable impact for a binary outcome with a mean of ~~0.60~~ will be about 10.9 percentage points in each site. If estimating **site-specific** impacts will be an important part of the analysis, then working *with* a sample *within each site* large enough to detect an impact of 5.25 percentage points should be considered. However, site samples of this size are likely to be beyond the cost constraints of this study. Alternatively, it may be both prudent and cost-effective to hedge against the possibility that one of the four sites performs poorly by expanding the sample so that impacts can be detected using three out of the four sites. This would require a sample of 4,304 overall, or 1,076 in each site (359 per group in each site).

4. Number of Sites and Criteria for Site Selection

To permit some contrast and improve the generalizability of results, we recommend that each policy change be tested in a minimum of four sites, each located in a different state. The ideal number of sites depends on a tradeoff between important objectives. On the one hand, having more sites would increase the generalizability of results. It **would also** provide some insurance against performance risk, since in any study, some sites may perform poorly, leaving researchers with an insufficient sample in the remaining sites to detect reasonable levels of program impacts. Having more sites would also reduce the sample size requirements for each site, which is important because limitations on the available child care funds limit the number of families each site can be expected to serve. On the other hand, having fewer sites would reduce the cost of the demonstration and the difficulties of implementing it in multiple sites.

Regardless of the number of sites selected for the demonstration, each must be large enough to generate a flow of enough families into the demonstration to meet sample size targets within a

reasonable time frame. For example, if each site needed to enroll 1,076 families within a year, it would need to provide assurances that about 90 eligible families with a child under 4 years would apply for child care subsidies each month. Sites must also be able to provide subsidies to the number of families that are required for the demonstration each month. Two-thirds of the eligible families enrolling in the demonstration would need to receive child care assistance, so sites would need to have the capacity and funding to serve about 60 new families each month.

Sites included in the demonstration will need to be partners with the researchers in implementing the experimental policies, ensuring the integrity of the random assignment process, and supporting data collection efforts. The experimental design will require that different policies apply to different families, and that these policy differences continue for at least three years. Researchers will have to work with the sites to find ways to recruit a **sufficiently** large and broad sample of low-income and welfare families into the demonstration, and to determine how to implement a valid test of improved information and administrative practices for different experimental groups. Sites will need to cooperate with the data collection process by ensuring that parents who enroll in the demonstration complete a brief baseline questionnaire, by supporting efforts to locate and contact families for follow-up interviews, and by providing administrative data on families enrolled in the demonstration.

Sites should be chosen to provide a contrast, for example, to represent different regions of the country, to test the interventions against different baseline child care policies, and to test the child care interventions in different welfare reform environments. Choosing sites in this way will enable different state program administrators to identify a site that is somewhat comparable to their state; as a result, more of them will believe that the research results apply in their state.

Sites would also need to be chosen so that the experimental policy change would make their child care rules more generous -- states would not be asked to reduce benefits for any participating family as part of the demonstration. In addition, the states participating in this evaluation should have flexible, automated child care systems **that** could be used to randomly assign families to different child care policies. This would allow the system to be used to track the participating families and calculate the appropriate child care benefits over time.

Politically, it may not be simple to gain the interest of desirable states. The more generous policies need to be offered in states with relatively restrictive child care policies, and these states may be concerned about the cost or adverse incentives of making child care policy too generous. So-me of these states have carefully designed their policies so that they can provide child care to all eligible families who apply for it, and they may be unwilling to upset their careful balance of policy parameters to test the impact of a more generous policy. Nevertheless, given the level of states' interest in information about better child care policy design, it may be possible to find enough of them that are willing to participate in the demonstration. In addition, it may be possible to implement this demonstration in a state that is about to make **its child** care policies more restrictive. Here, we would use a design that compares families eligible and receiving benefits under the old, more generous rules with families receiving benefits under the new, more restrictive rules. This design may avoid some of the entry effects discussed above.

5. Schedule and Plan for Implementation

This demonstration and evaluation could be implemented and completed within a five-year time frame. The first year would be devoted to selecting sites and planning demonstration operations in consultation with state and local officials. Plans would include procedures for

identifying and selecting families for the demonstration, informing them about their benefits, and collecting administrative and survey data over time. In the second year, the procedures would be implemented in the sites. Families would be enrolled in the demonstration and short baseline interviews would be completed. In the third and fourth year, data would be collected on parents' employment, child care choices, family well-being, and child well-being. In the fifth year, data analysis and reporting would be completed.

B. A DEMONSTRATION TO TEST THE LABOR SUPPLY EFFECTS OF FLEXIBLE, STABLE CHILD CARE WITH QUALITY VARIATIONS

Inflexible jobs pose a problem for some low-income parents who do not have another adult in the home who can help with child care and who have difficulty finding flexible child care. There are actually several distinct problems that are given the label, "job inflexibility," and each calls for a different type of flexible child care solution. One problem is that the nonstandard work schedules of low-income parents often require child care that is available outside the hours when most child care providers operate (roughly, 7 a.m. until 6 p.m.). Another problem is that parents may have jobs with schedules that change from week to week, or they may hold a series of short-term jobs with different schedules, so that over a year, their work schedule has changed several times, making it difficult to maintain a stable child care arrangement with a single provider. Finally, at least for an initial period of 6 to 12 months, and sometimes for longer, **low-**wage jobs do not often provide benefits, such as paid vacation and sick time that could be used when children are sick or the provider is unavailable. While many low-wage working parents have relatives or friends who are willing to help out by providing child care whenever it is needed, many others do not have the flexibility at home to accommodate rigid or odd hours, or

changing work schedules. For these parents, a flexible, stable, and reliable child care arrangement may provide the support necessary for employment.

While flexible, reliable child care arrangements alone may make a substantial contribution to supporting the employment of low-income parents, a fundamental issue that has not been studied sufficiently is the effect of high-quality child care on employment. Very little of the welfare literature has linked quality of care with employment outcomes. In nonwelfare studies, samples of low-income mothers are unlikely to be using high-quality child care unless they are part of an evaluation of a carefully developed early intervention program. Yet, work by Brooks-Gunn et al. (1994) and Meyers (1993) indicates that quality child care may lead to sustained employment activities and earlier entry into the labor force. Brooks-Gunn et al. found that mothers with lower levels of education and with more medically fragile toddlers were more likely to become employed and remain employed when they had access to **high-quality**, center-based care for their infants. The Meyers study included mothers with children in a broader age range and found that the perceived safety of the arrangement and the mother's ability to trust the provider were most important in sustaining employment and training activities. These studies indicate that a basic threshold for quality must be met in order for a parent to sustain employment activities, but for parents of infants and toddlers, and particularly for those with special-needs children, high-quality child care may improve employment outcomes.

Information on the quality of child care and on the child care arrangements of low-income working parents indicates that the supply of child care in the U.S. can be very roughly characterized as offering a choice between low-quality, flexible arrangements and high-quality, inflexible arrangements. The demonstration proposed here would attempt to bring flexibility and quality together in the same child care arrangements by increasing the quality of flexible child

care arrangements to a basic level and increasing the flexibility of high-quality child care arrangements, and then offering these options to a randomly selected group of low-income families. Some have argued that flexible, reliable child care of at least basic quality may be a sufficient investment in the labor force participation of low-income parents. We recommend adding quality variation to this intervention — basic quality and higher quality — in order to test the additional contribution of high-quality care to improvements in the employment outcomes for parents leaving welfare.

The two interventions (basic-quality care and higher-quality care, both of which are flexible and reliable) could be implemented either in different communities or in the same communities. One intervention (flexible, basic-quality child care) would assign families randomly to be linked with flexible, reliable child care providers who meet some basic standards for quality and have been recruited by the local child care agency to serve families in the demonstration. The other intervention (flexible, high-quality child care) would randomly assign families to be offered a space in a high-quality child care arrangement in the community. Since high-quality child care is often not flexible, but low-income parents will need child care flexibility, the local agency would work with these providers to ensure that they offer reliable care that is flexible enough to meet the work schedules of families in the demonstration.

An experiment providing access to flexible, basic quality child care arrangements would address the following research questions:

- How would the offer of flexible, basic-quality child care affect the employment rates, job stability, earnings, job flexibility, and self-sufficiency of low-income mothers?

- How would the offer of flexible, basic-quality child care **affect** the type of child care, hours of care, quality of care chosen, parents' perceptions of the quality and flexibility of care, the cost of care, the continuity of care, and other features?
- How would the offer of flexible, basic-quality child care affect family well-being, including income levels, parents' psychological well-being, adult relationships and conflict, and parenting stress?
- How would the offer of flexible, basic-quality child care affect child well-being, including school readiness and performance, behavior, health, and involvement with the **noncustodial** parent?

Providing access to flexible, high-quality child care arrangements would address a similar set of research questions. Moreover, if the interventions were implemented in the same sites, we could also examine the question of how much high-quality child care contributes to improvements in employment outcomes and in family and child well-being, over and above the effects of flexible, basic-quality child care on these outcomes.

We considered implementing a test of the effect of high-quality child care on employment and other outcomes using a nonexperimental comparison-group methodology in different communities with different levels of quality of care. However, we expect that even in communities like Minneapolis, with good support for child care and potentially, for high-quality child care, there will not be enough high-quality child care to enable us to measure its impact if we were to compare children's outcomes in Minneapolis with those of children in other communities. It would be possible to obtain a somewhat better measure of the effect of quality if we knew the percentage of child care providers in each community that could be considered high-quality, but it would be very costly to measure the percentage of providers in the community who offer high-quality child care. Moreover, differences in welfare policies and other features of the child care environments across comparison communities would make it

difficult to attribute, **with** a high degree of confidence, community-wide **differences to the effect** of different levels of **child-care** quality in the communities.

1. **The Intervention: Policies to Be Tested**

Consistent with the current child care policy emphasis on parent choice, this demonstration would test the *offer* of flexible, basic-quality and flexible, high-quality child care on employment outcomes, child care choices, and other aspects of family and child well-being. To implement this demonstration, the community would need to have a supply of flexible, **reliable** child care of basic or high quality. Moreover, since the likelihood that we will be able to detect impacts of this offer depends, in part, on the rate at which families exercise the child care option they are offered, child care agency staff who are implementing the experiment would need to make every effort to encourage families to use the option. The likelihood of detecting impacts also depends on minimizing the number of families in the control group who receive the experimental child care options.

a. **Defining and Making Available Flexible, Reliable Child Care Options of Varying Quality**

Flexible, reliable child care of basic quality is not expected to be of substantially greater quality than the child care already available in the community. However, it is expected to be more reliable and more flexible, and thus able to respond better to varying work schedules. Providers also need to meet basic safety and health standards so that parents will feel safe leaving their children, but the level of quality will not be a distinguishing feature of the child care option.

This supply of child care could be developed in several ways. Home-based child care providers could be approached and offered adequate compensation to provide reliable child care

to match any work schedule. A network of home-based providers could be formed within neighborhoods so that parents can form relationships with two or three who would provide a reliable source of child care at any time it is needed. The advantage to using home-based providers is that they more readily respond to the needs of families than do child care centers, which are larger institutions. However, a drawback to using home-based providers is that surveys of low-income parents indicate that these parents do not trust strangers who care for children in their own homes, compared with home-based relatives or institutional, center-based providers. To address the trust issue and still develop flexible, reliable child care, it may be possible to work with one or two centers in target neighborhoods to provide the necessary financial compensation and any necessary technical assistance to encourage them to provide flexible, reliable child care. Alternatively, local child care agency staff could work with parents and selected child care providers to increase parents' familiarity with the providers and to increase the providers' awareness of what the parents want in a child care setting.

Although the level of quality will not be a distinguishing feature of the demonstration child care option, there must be some demonstration criteria for basic safety and health requirements. It may be possible simply to use licensing requirements to ensure adequate quality, although in many states and localities, some licensing requirements appear to be much more costly to implement than the benefits to children would warrant, while in other states, regulations are too lenient to ensure even basic quality. These problems, and the fact that quality would be defined very differently across states, lead us to recommend against using licensing regulations as the basic standard for quality.

An alternative approach to ensuring adequate health and safety would draw on existing measures of quality. For centers, we could draw on the Cost, Quality, and Child Outcomes in

Child Care Centers study, which found that a large number of centers scored between 3.0 and 5.0 on average on the Early **Childhood** Environmental Rating Scale (ECERS) (Helburn et al. 1995). This scale measured quality in centers across a number of different dimensions, rating them from 1 (inadequate) to 7 (excellent). Similarly, the Study of Family Child Care and Relative Care found that many home-based providers scored between 3.0 and 5.0 on the Family Day Care Rating Scale (FDCRS), although this scale has been criticized as inappropriate for informal and small-scale home-based child care arrangements (Galinsky et al. 1994). For both these scales, scores of 1 or 2 on individual items indicate that the center or **home** lacks an important component of good-quality child care, and in **some instances**, the missing component may pose a risk to children. Thus, it may be appropriate to require centers and homes to score a 3.0 or above on each item in the ECERS or FDCRS, or to require a 3.0 or better only on the subset of items pertaining to health and safety. Still another approach would be to require an average score of 3.0 or above on the ECERS or FDCRS, which would permit the center or home to score below a 3.0 on individual items.

Ensuring a supply of child care that is both flexible and high in quality requires more effort because, in most instances, they are not found together. The best approach would be to find high-quality child care programs that serve low-income families because these programs may already have had to respond to the scheduling issues faced by these families. Based on information from the Cost and Quality study and the Family Child Care and Relative Care study, centers and homes scoring an average of 5.0 or above on the ECERS or FDCRS would clearly distinguish themselves from most available community-based child care options in terms of quality, so this would suffice as an initial definition of high quality. If high-quality providers in low-income neighborhoods are not flexible, then some combination of technical assistance and

financial incentives should be offered to them so they can offer **flexible** care. An alternative is to offer backup care options similar to those discussed earlier to improve the chances that parents would accept the offer of high-quality child care.

The problem of ensuring an adequate supply of flexible, reliable child care of appropriate quality is complicated by the fact that the availability of the experimental child care options must be sufficiently limited to prevent members of the control group from using them, but not so limited as to fail to meet the needs of families who are being provided access to this care and want to use it. Ensuring just the right level of supply means that the flow of families into the demonstration must be carefully controlled to occur when the providers have openings, and that children in the community who are not part of the demonstration are available to fill slots that are not needed by families in the experimental group. It also means that we need to have reasonably accurate predictions regarding the proportion of families offered these child care options who will want to use them over time, which we discuss further in the next subsection.

b. Encouraging Families to Use the Offered Child Care

Many low-income families prefer to use relatives or trusted friends to provide child care, and as a result, we expect that a proportion of the families who are offered the flexible, reliable child care options will decide not to use them. Since the size of the measured impacts of the experimental child care options depends in part on the proportion of families who decide to use these options, we need to encourage families to use the child care that is offered. At the same time, the **policy-**relevant effect of these experimental options also depends on not displacing families from using a child care option that is attractive to them in favor of the experimental option. In other words, we should only be trying to serve families who have a child care problem that could be solved by

the experimental child care option, and measuring the overall improvement in employment that results from serving families who need help with child care.

Thus, we recommend that families entering the demonstration be linked with child care agency staff who can discuss with them their work schedules, child care needs, and the importance of having a flexible and reliable source of child care. The staff member will need to explain how the providers associated with the agency are recruited and given technical assistance, and how these providers are in the best position to offer the kind of child care that the parent needs. To this end, the staff member will need to explain why the providers are trustworthy and the best choice for the family, and should offer any assistance or encouragement necessary to help the parent assess the potential match between her needs and the care offered by any of the providers on the list. If child care flexibility is being extended by maintaining networks of home-based providers, the staff member should work with the parent to identify two or three of these providers.

While many parents may still choose family members or friends to provide child care because these relatives and friends may offer the same flexibility but better quality than the providers in the agency's network, past research suggests that many low-income families experience breakdowns in their informal child care arrangements or they become dissatisfied with their arrangements over time. The family's own experience may demonstrate over time that these arrangements are not as reliable or flexible as expected, and may not be as good in quality as the parent had hoped. Therefore, we expect that over a relatively short period (about one year), some proportion of families in the experimental group who initially did not use the offered child care would be open to trying these arrangements. In some cases, this assistance finding flexible, reliable child care may need to be provided during a child care crisis, when it might help

keep the parent employed. Thus, we recommend that agency **staff** develop approaches to contacting families in the-experimental group periodically and repeating the offer of-assistance in locating flexible, reliable child care so that these families continue to be encouraged to use the experimental types of child care. Over a period of about a year, if the agency has a responsive supply of child care providers who offer safe, healthy child care, and if agency staff provide reassuring information and help match families with suitable providers, we would expect that the proportion of families using the experimental child care would be high, since it could include all of the families who would ordinarily use nonrelative care, plus about half of the families who would ordinarily use relative care.

Families assigned to the high-quality child care experimental group should be given extensive information on the benefits of high-quality child care and perhaps a videotape showing what the high-quality arrangement looks like from the child's point of view. The offer should be repeated, and the family should have access to this child care for as long as it has a child not yet in first grade in-order to test the effect of having such care generally available and affordable in the community.

c. Minimizing the Number of Families in the Control Group Who Receive the Experimental Child Care Policies

This demonstration will have its best chance of detecting impacts of the experimental child care policies on employment outcomes if families in the control group do not receive the experimental child care policies and families in the experimental groups do receive the types of care offered to them. To minimize the number of families in the control group who receive the experimental child care policies, we would ideally require child care providers offering the experimental child care services to fill their openings with children in the appropriate

experimental groups or with children in the community who are not enrolled in the demonstration, but not ~~with~~ children in the control group. Providers would need to call the child care agency before enrolling a child in their program so that agency staff could check to see if the child in question is in the control group. However, the question of whether to completely exclude control group children from the experimental child care settings presents a very **difficult** design decision.

A policy of excluding children in the control group from the experimental forms of child care might be justified if the demonstration has invested large amounts of technical assistance and funding to create the experimental child care options. However, if very little has been invested in these providers, but instead, some providers in the community who meet most of the criteria for the experimental forms of care have been selected to work with the demonstration and are given a small amount of assistance to meet all of the criteria, it may be more acceptable to the providers and the community to give children in the experimental groups the highest priority for open slots, with children in the community who are not enrolled in the demonstration receiving the next highest priority, and children in the control group receiving the lowest priority for service. This practice may not completely exclude control group children from the experimental child care options, but it may minimize the number who are placed in these child care settings.

2. Target Population and Sampling Strategies

As was true of the child care subsidy policy demonstration described above, the target population for this demonstration includes parents receiving welfare and those who are not on welfare but who have only a tenuous attachment to employment. However, in contrast to the subsidy demonstration described earlier, this demonstration will try to link families with

particular child care providers. To increase the probability that families will use these providers, we must define our target population by neighborhood, as well as by income, welfare, and employment status. Census tracts could be identified to define the appropriate catchment area for eligible families. Thus, identifying the target population will require that we first identify neighborhoods with high proportions of families who are likely to be eligible for the demonstration by income, welfare, and employment status, and then recruit child care providers in those neighborhoods. If any neighborhoods yield an insufficient supply of child care providers to serve families who would be brought into the demonstration, then that neighborhood would have to be omitted from the target area.

We considered randomizing families who apply to the child care providers who offer the flexible, reliable, and quality child care services but rejected this design because it would limit the study to families who are knowledgeable about and value either flexible or high-quality child care services. This research study should examine the impact on child care choices and employment of having a supply of flexible, reliable child care of different quality levels generally available in the community, which would be more consistent with giving the offer and providing a lot of information about the benefits of the care arrangements to a more general population of families making decisions about child care and employment.

An important drawback of a target-neighborhoods approach to defining the sample is that low-income families tend to move often. Targeting neighborhoods is much more risky than targeting an entire city in terms of attrition from the experimental program because it is much more likely that a family will move out of a particular neighborhood than out of a city. Nevertheless, because we will need to work with a supply of child care providers, we must define

the population in terms of neighborhood areas and accept the risk of that families will move out of the target area. →

3. Key Outcomes and Sample Size Considerations

The outcomes in this demonstration should be similar to the outcomes used in the child care subsidy policy demonstration and described in Section A.3.a. In addition, however, a key outcome in this demonstration would be the extent to which sample members selected the **high-quality** child care option. This would show us how having a substantial supply of high-quality child care available in a neighborhood and providing financial support to families who choose that option would affect the child care choices of low-income parents.

In addition, the sample size considerations for this demonstration would be similar to those of the child care subsidy policy demonstration. One issue that would gain increasing importance in this demonstration, however, would be the role of “leakage” in sample size requirements for examining the effects of child care quality on job retention and employment stability. Leakage in the context of this demonstration refers to sample members offered the option of **affordable** high-quality child care who do not use this care. The rate at which sample members “take up” this offer would be a key outcome of the demonstration. However, our ability to detect impacts of the child care offer would be reduced by the proportion of sample members who chose not to use the flexible, high-quality child care services, because sample members who did not use the high-quality child care could not be influenced by it.

Thus, it is important to remember that the minimum detectable impacts discussed in Section A.3.b would refer to the effects of *offering* high-quality child care on employment stability rather than the effects of actually *using* high quality child care on employment stability. The latter

impact would actually have to be larger than the specified minimum detectable impact (for a given sample size) to be detected by the analysis.

Finally, in the discussion of sample size considerations for the child care subsidy demonstration, we assessed how large an impact we expected a given policy change to have on employment rates in order to determine what we felt the minimum detectable impact should be. ‘We have much less information on which to base what we expect to be the true impact of an offer of high-quality child care on employment outcomes. One reasonable suggestion would be to make the sample size as large as the sample size for the child care subsidy demonstration. However, other possibilities may be equally valid.

One consideration that leads us toward reducing the sample size requirements is the difficulty of implementing this demonstration in a large number of sites and for a large number of families. The flexible, basic-quality child care option requires that we have a supply of slots available with a set of child care providers who meet our criteria for providing flexible child care and meeting basic quality standards so that families assigned to that group can find child care whenever they are looking for it. Local staff at the site must ensure that a sufficient supply of providers are available, that families in the experimental group can find child care, and that providers working with the agency do not serve families in the control group. In addition to these considerations, sites offering flexible, high-quality child care must have a sufficient number of slots to serve families in the relevant experimental group. This may lead to a recommendation that fewer families per group be enrolled in this demonstration – for example, 750 per group, or even 500 per group – although the impacts of these policy interventions would have to be relatively large in order to be detected with this smaller sample.

4. Number of Sites and Criteria for Site Selection

Criteria for site selection for the subsidy demonstration were discussed in Section A.4 above, and many of those criteria would be relevant to this demonstration as well. Sites need to have enough people in the population of interest to yield the required sample of families eligible for the demonstration (in terms of income levels, ages of children, and other characteristics). Local agency staff would need to be partners in the research, providing support for developing and implementing random assignment and service options, and for supporting data collection efforts. The sites selected should provide a mix of regions and child care policy environments. In addition, several other criteria, discussed here, may need to be met by sites participating in this demonstration.

The need for flexible, reliable child care would be highest in low-income communities that are dominated by employers who offer a relatively high proportion of jobs with nonstandard schedules. Therefore, one way to identify candidate sites for the demonstration would be to analyze CPS data on work schedules to identify which employers (by industry and occupation) disproportionately offer odd-hours work schedules and which also employ large proportions of single women. It would then be possible to target labor market areas that contain a preponderance of employers of this type. Once the labor market areas have been identified, several interested in working on a research project could be chosen. In neighborhoods with a high proportion of women who would likely work for the targeted type of employer, a child care agency would intervene to increase the flexibility and reliability of child care in the neighborhood and ensure that it meets basic quality standards.

The study involving flexible, reliable high-quality child care should be implemented in several communities that already have a supply of high-quality child care for low-income

families, but not enough to saturate the community. Ideally, the high-quality child care would exist in both ~~center-based and~~ home-based arrangements, although it may not be possible to find this in all study communities. Child care providers involved in the demonstration must be able to offer flexible child care that is attractive to low-income parents, and they must be willing to cooperate with the requirements of random assignment and with the data collection needs of the demonstration. If possible, the study involving flexible, high-quality child care should be implemented in several different communities that have different levels of basic child care quality so that the effect of high-quality child care can be contrasted with different prevailing levels of quality in the communities.

As was true of the subsidy policy demonstration, there will be a tradeoff in determining the appropriate number of sites. On the one hand, including more sites would reduce the number of families per site who must be served by the child care providers recruited specifically for the demonstration and increase the ability of local staff to monitor children's placements. On the other hand, increasing the number of sites would increase the cost of monitoring demonstration and data collection operations, and it may be difficult to find a large number of strong sites willing to participate in the demonstration.

We considered the idea of implementing this demonstration in a community in which **high-**quality child care would need to be developed and then offered to families, but we believe that the question of how to develop high-quality child care should be studied separately because of its scarcity in communities at large, and particularly in low-income communities, and because of the time required to improve the quality of existing low-income child care arrangements. Therefore, the study of flexible, high-quality child care should be based in communities that already have a sufficient supply of high-quality child care so that the research can focus on the effects of

offering such care to low-income families. One drawback of this approach is that people who have developed and who direct high-quality child care services are often unwilling to participate in an outside evaluation. Their continued successful **fundraising** is based on a good reputation, which may not survive an independent evaluation. It would be necessary to address this issue in order to gain the support and cooperation of such providers.

In order to minimize the risk of families moving away from the demonstration area, the demonstration should be implemented in communities whose population is relatively stable. To increase the probability of finding a sufficient supply of flexible, reliable child care providers and a sufficient number of families interested in using those providers, the demonstration should be implemented in communities with relatively high concentrations of low-income families.

5. Schedule and Plan for Implementation

A five-year time frame would be relatively tight for this demonstration and evaluation because of the additional work required to ensure that the supply side of the demonstration will function as planned, but five years could still be feasible. In the first year, sites would be selected and demonstration operations would be planned in consultation with state and local officials. Plans would include procedures for identifying and selecting families for the demonstration, informing them about the special child care settings, and collecting administrative and survey data over time. Planning would also need to cover identification of providers who can offer flexible, reliable child care with the appropriate quality variations and who are willing to cooperate with the demonstration. In the second year, the procedures would be implemented in the sites. Families would be enrolled in the demonstration, and short baseline interviews would be completed. In the third and fourth year, data would be collected on parents'

employment, child care choices, family well-being, and child well-being. In the fifth year, data analysis and reporting would be completed.

¹ This strategy is being followed in the New Hope demonstration in Milwaukee, Wisconsin (R. Hollister, personal communication, October 16, 1998).

²The two parameters that must be chosen are the confidence level (the probability that the test accepts the null hypothesis when it is true), and the power of the test (the probability that the test rejects the null hypothesis when it is false). In addition, we must also choose whether to use a one-sided or two-sided statistical test. When these parameters and the variance of the outcome being studied are specified, the minimum detectable impact can be computed from standard statistical formulas.

³For studying the impacts of a policy change on job retention or employment stability, sample members who never found jobs within the sample period (that is, the extent to which there is sample “leakage”) would not respond to questions regarding job retention or employment stability. Thus, minimum detectable impacts on these outcomes would be higher in cases in which sample leakage was higher.

⁴If a regression-based estimator is used to estimate the treatment impact, the minimum detectable impacts will be smaller for each sample size. The extent to which this effect is smaller will depend on the-explanatory power of the regression (that is, its R-squared).

⁵The income eligibility limits in these states differ as well, so that an individual paying the upper limit of this range in one state may not be eligible for any child care subsidy in another state.

⁶These calculations assume standard deviations of 15 for hours worked and \$3 .00 for wages.

III. EXPANDING THE CHILD CARE DATABASE

Some of the research that would improve the knowledge base for child care policymaking is descriptive. It seeks to answer such questions as: What types of child care are families using? How much are families paying for child care? What are the characteristics of families receiving child care assistance compared to the characteristics of all eligible families? Up-to-date information on these questions is needed to guide policy decisions. Therefore, data should be collected annually from a nationally representative sample of households to provide a regular and current description of child care utilization and the characteristics of families served by child care subsidy programs. We recommend collecting information annually on the type of child care used by families (including self-care), hours of child care used, the number of arrangements, the cost of child care to families, and participation in subsidy programs and benefits received. Some of this information is already being collected, and the rest could be obtained by expanding and improving existing data collection efforts, including household surveys and state administrative data.

More in-depth information about families' use of child care and how it interacts with their employment decisions, with the quality and cost of care, and with providers' decisions about the quantity of child care would require a more ambitious survey effort. Nevertheless, this information is important to obtain periodically in order to provide a factual basis for understanding the current supply and demand for child care. Therefore, we recommend that an in-depth study of child care supply and demand be conducted once every five years. We discuss our recommendations for this data collection effort in the second half of this chapter.

A. EXPANDING ONGOING DATA COLLECTION

Several nationally representative, household-based population surveys that include information on labor force participation, income, and participation in public programs also include child care information, and some additional surveys have been identified as potential candidates for child care data collection. States also collect information from families participating in child care subsidy programs that they need in order to administer these programs. Child care administrative data, along with welfare administrative data, earnings data from the Unemployment Insurance system, and other program administrative data can provide a detailed portrait of employment, child care use and costs, and welfare program participation for families in a given state. In this section, we describe these surveys and discuss our recommendations about whether they should be expanded or modified to better support child care policy research.

1. National Household-Level Data

Several important national-level household surveys currently collect child care data or have been considered candidates for also collecting child care information to reinforce their utility as a basis for child care policy research. Good examples of such surveys are the Current Population Survey (CPS), the Survey of Income and Program Participation (SIPP), the Survey of Program Dynamics (SPD), the Panel Study of Income Dynamics (PSID), the National Longitudinal Survey of Youth (NLSY), and the American Community Survey (ACS). We recommend adding child care information only to the SIPP, and we recommend monitoring the development of the ACS because it will provide opportunities in the future to learn about child care markets.

In general, our recommendations have been guided by several principles:

- The survey **should** already be collecting data annually in order to provide information as often as it is needed.
- The survey should be collecting data into the foreseeable future so that it can provide an ongoing source of child care data.
- The data should be longitudinal to permit analysis of the interactions between child care and employment.
- The sample should be large enough to permit analysis of important subgroups.

Our recommendations regarding these national data sets are explained in more detail in the discussion that follows.

a. Current Population Survey (CPS)

The CPS is a large survey of the labor force participation and economic well-being of households in the U.S. About 50,000 households are included in each round of data collection. Households in the CPS sample remain in the sample for a total of 18 months, but part of the sample is dropped and replaced each month. The main purpose of the CPS is to collect labor force statistics each month to produce monthly estimates of employment, unemployment, earnings, hours of work, and other labor force indicators by demographic characteristics, occupation, industry, and class of worker. The sample is drawn from a large number of “primary sampling units,” which include counties and county groups, and which roughly correspond to labor markets. The CPS sample is not large enough to produce state-level estimates within a reasonable margin of error, but if several years of CPS data are combined, it is possible to produce more precise state-level estimates. However, because the CPS sampling frame is from

parts of each state (selected counties and county groups) and state sample sizes are relatively small even when three years of data are combined, the estimates are still weak for many states.

Topical data in addition to employment-related data are collected on a rotating basis each month. For example, data on household composition and income from all sources are collected in March and form the basis for the annual poverty rate estimates for the U.S. Topical data have also been collected on school enrollment, previous work experience, child support, health, employee benefits, and work schedules.

Although some have suggested adding child care questions to the CPS, we do not recommend doing so. The CPS currently includes no information about child care, and since child care arrangements and costs are relatively complex to ask about, obtaining a little information about even these limited aspects of child care on a reliable basis would require a substantial amount of time from respondents, which could not be made available unless another topic were dropped from the survey. The advantages of adding child care data to the CPS is its large size, which could support some state-level estimates, and the fact that the public use data files are released relatively quickly once the data are collected. Nevertheless, the difficulty of finding time to administer a section on child care leads us to recommend other vehicles for obtaining child care information.

b. Survey of Income and Program Participation (SIPP)

The SIPP is a longitudinal household survey on the economic well-being of households. From 1984 through 1993, a new longitudinal panel of between 14,000 and 20,000 households was begun in February of each year so that panels would overlap. The overlapping design is important because it yields greater precision in cross-sectional estimates. For the 1984 through

1991 panels, data were collected on each household once every four months for two to **two-and-one-half** years.

The SIPP has been redesigned to include a new, four-year panel of 36,700 households introduced in April 1996. To help provide a transition between the old and new sets of panels, the 1992 panel was extended to 10 waves (about 3 ½ **years**) and the 1993 panel was extended to nine waves (3 years). No new panels were introduced in 1994 or 1995.

The SIPP includes a set of core questions about household composition, income, labor force participation, and participation in public assistance programs that are asked at each interview, and a series of topical modules containing questions that are asked only once or twice during the life of a panel. Information about child care arrangements is collected once per year, so child care data from these modules can be obtained from two combined panels in each calendar year. The fact that the SIPP already commits considerable resources to obtaining child care information makes this a good candidate for improving our information base for child care policy.

The SIPP asks about participation in a wide variety of public programs, but not about participation in child care subsidy programs. This may have occurred because child care subsidy programs, until 1992, were very small, so they would have affected only a small proportion of the sample. Moreover, they are administered by states, which use different eligibility and benefit rules, and the child care subsidy is often paid directly to the provider or as a reimbursement in the family's welfare check, making it more difficult for respondents to answer the participation question accurately. Therefore, we recommend that some pilot testing be done to learn how to ask questions about child care program participation that will yield

accurate participation data. Once questions have been developed, they should be included in the SIPP child care modules.³

c. Survey of Program Dynamics (SPD)

The SPD was designed to collect data on households that can be used to learn about the effects of welfare reform on families and children. The SPD, first fielded in 1996, will follow households annually through 2001 that were previously interviewed from 1992-1994 or from 1993-1995 by the SIPP (described above). The sample includes about 30,000 households for a shorter “bridge” survey in 1997. The 1998 survey interviewed a subsample of 17,500 households in May and June, and it oversampled low-income households (based on income levels reported in the 1997 survey). The 1998 survey included information on demographic characteristics, employment and income, children’s well-being (including child care arrangements), and family well-being.

While the SPD already asks questions about type of child care used, hours spent in each child care arrangement, child care costs to the family and whether the family receives help paying for care, it is not now likely to be a good candidate for use, with modifications, as a standard means of obtaining child care data because the survey is already well underway and the budget is tight. The next round of interviewing will occur in May and June of 1999, and the last set of interviews is scheduled for one year later. Other survey efforts that will last longer would be better candidates for modification.

d. Panel Study of Income Dynamics (PSID)

The PSID is a longitudinal study of demographic characteristics and the economic well-being of a representative sample of individuals in the U.S. The sample size in 1995 was 8,700

and includes the original sample of individuals from 5,000 households begun in 1968 and an additional sample of individuals in 2,000 **Latino** households begun in 1990.

Individuals are interviewed annually about income, employment, family composition changes, and demographic events such as marriage or childbearing. In recent years, questions have been added to the annual interview to cover housing, food expenditures, time spent on housework, and health status. Supplemental modules have incorporated additional information on a number of topics, including child care in 1977 and child care and development in 1997.

Given the availability of the SIPP for child care information, we do not recommend making a substantial investment to include child care data in the PSID. The PSID sample may not be as representative as the SIPP sample, which is refreshed every two to four years. Moreover, the PSID sample size of 7,500 is very small relative to the SIPP sample, which ranges **from** 14,000 to 36,000 households.

e. **National Longitudinal Survey of Youth (NLSY)**

The NLSY currently includes two panels that were each begun with a youth cohort. The NLSY79 is a nationally representative sample of about 12,700 young men and women age 14 to 22 in 1979. These individuals were interviewed annually **from** 1979 through 1992 about education, employment, demographic changes, child care, and other topics. In 1986, the NLSY began to collect data on children born to women in the sample. The NLSY Mothers and Children surveys were conducted every two years through 1992 and include information on child health and well-being, parenting and the home environment, and child care.

The NLSY97 is a new cohort of 10,000 men and women 12 to 16 years old as of December 3 1, 1996. Information will be collected about the parents of these adolescents, and about the

education, employment, income, behavior, and a number of other topics for the youths themselves.

While the NLSY79 has been a very useful source of child care data, its utility in the near future is declining as the sample ages (sample members currently range in age from 34 to 42 years). The new NLSY97 sample is currently too young to provide child care information. Therefore, we do not recommend using the NLSY samples as a vehicle for child care information over the near future.

f. American Community Survey (ACS)

The ACS is a data collection initiative that is in its pilot stages. Collecting information on housing, social, and economic data, the ACS seeks to continually interview households selected from community address lists to provide accurate and up-to-date profiles of America's communities that are comparable in quality to decennial census information. In collecting data at the community level, the ACS provides the basis for communities or agencies to obtain data on particular issues if they are willing to help fund the marginal cost of obtaining this information.

If Congress approves funding for the ACS, the Census Bureau plans to add a national sample of 700,000 housing units per year to the ACS sample between 2000 and 2002. Starting in 2001, estimates can be provided for all states and for geographic areas or population groups of 250,000 persons or more. In 2003, the ACS would be implemented in every county in the U.S., with an annual sample of 3 million housing units. Once the survey is in full operation, ACS data will be available each year for areas and population groups of 65,000 or more beginning in 2004. To provide statistics for small areas and population groups of 15,000 or less, ACS data will need to be combined over a five-year period to provide estimates with the precision of decennial

census data. Therefore, annual estimates of these smaller areas can be constructed beginning in 2008.

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Unfortunately, funding uncertainties make the implementation schedule for the ACS also very uncertain. Nevertheless, the ability to represent small areas makes the ACS a potentially promising vehicle for child care data collection because child care markets tend to be geographically small. Areas and samples could be selected from the ACS sampling frame, and questions about child care supply and demand in these selected areas could be added to the survey. The ACS should therefore be considered as a possible basis for collecting child care supply and demand information in future rounds of a child care market survey, an effort we describe more fully in Section B.

2. State Child Care and Welfare Administrative Data

All states collect data from families who participate in public assistance programs in order to help administer the programs. The data provide information on the number and characteristics of families and children served, and on the amount of subsidy provided to each family. In some states, administrative data provide accurate monthly information on program participants and benefits, while in other states, the data and how they can be used is severely limited by archaic data systems. Administrative data thus have the potential to inform us about families in every state who receive child care assistance.

It is critical for all of the states to make whatever modifications are necessary in their administrative data systems so they can provide information on the number and characteristics of families and children receiving child care assistance. The data systems should be able to indicate by month, the number of families and children receiving child care assistance, children's ages,

the amount of the child care subsidy received by each, and the amount the family pays for child care. The state data system should also be able to provide accurate information over several months, including the number of months each family and child received child care assistance, the total amount received, and an unduplicated count of the number of families and children receiving child care assistance in a year. State data systems should be able to provide information on participation in child care programs by subgroups defined by income, welfare program status, employment status, race and ethnicity, and family size and number, and ages of children. States should also be moving toward systems that allow them to combine family child care data with data on the same families from different administrative systems, including welfare, food stamps, unemployment insurance wage data, Medicaid, and other related data. This information will help states to better understand who is being served by various programs and what benefits are being received. While the political obstacles to progress in this area are substantial, we recommend using every opportunity to press for improvements in state administrative data that can help improve the knowledge base for child care policy.

B. NEW DATA COLLECTION ON THE SUPPLY OF AND DEMAND FOR CHILD CARE IN THE UNITED STATES

Although existing national databases can act as the vehicles for regularly obtaining information about critical aspects of child care (for example, the type of child care children are using, hours in care, and the cost of care), the questions on child care are somewhat limited as a result of time considerations.

These databases therefore cannot provide more extensive information that could help policymakers understand how families choose child care and how child care policies affect child care choices and employment activities. Moreover, because the national databases are based on

surveys of households, they provide almost no information about the supply of child care, or child care providers. Information about child care providers is valuable for understanding consumer choices and the effects of policies that seek to **influence** the supply of care. A survey of providers would address questions about the number of child care slots available nationwide for different ages of children, types of care offered, openings, fees charged, staff characteristics, major cost items in producing child care, staff and child turnover, and related information.

A survey of the child care market was conducted nearly 10 years ago. The Profile of Child Care Settings (PCS; Kisker et al. 1991) and the National Child Care Survey (NCCS; Hofferth et al. 1991) provided information about the supply and demand sides, respectively, in the same communities, representing the nation's child care markets. The information from those surveys has been extremely useful and widely cited, but is becoming quite dated, particularly because the extent of federal and state subsidization of the child care market has grown, women's labor force participation has continued to rise, and welfare reform has increased employment among **low-income** mothers. Therefore, we recommend repeating the supply and demand studies as soon as possible, and because the information obtained **from** those studies will be dated within about five to six years, we recommend repeating these studies every five years so that policymakers will always have timely child care market data available.

An advantage of collecting another round of demand and supply data in the same communities is that this approach would allow analyses that combine the information about both sides of the child care market. The bulk of the research that was based on the original PCS and NCCS focused on either child care providers or parents, but not both. However, a few studies have used both data sets to analyze the child care market in greater detail. For example, Blau and Hagy (1998) and Hagy (1998) have looked at the effects of child care costs and quality on the .

demand for child care and on employment. Hofferth and Collins (1997) examined the effects of child care market characteristics on employment stability.

If the PCS and NCCS data collection efforts were repeated, future research could combine these supply and demand side data sets in a number of interesting ways, including repeating the studies mentioned above with more recent data. Possible research applications include:

- ***Estimating the effect of prices on child care choices and employment outcomes.*** Data from child care providers will yield information on child care prices charged by individual providers and by “the market as a whole.” Data from parents will show individuals’ child care choices and employment status. For studies of this sort, information on the market price of informal care, which was not included in the 1990 PCS, would be particularly valuable.
- ***Estimating the effects of other market characteristics on child care choices and employment outcomes.*** Since the provider survey will offer information on a wide range of provider characteristics (and would provide an even greater wealth of detail if informal care providers were included) and the parent survey will provide child care and employment information, the combined data would allow the study of the effects of these provider characteristics on child care choices and employment outcomes.
- ***Providing a fuller picture of child care subsidy use in child care markets.*** The provider survey will offer information on whether providers accept subsidized clients, on the proportion of their clients that are subsidized, and on whether they charge subsidized parents a co-payment. The parent survey will provide information on whether parents know about subsidies, whether they receive them, whether their current provider accepts subsidies, and how much they are currently paying for care.
- ***Estimating the relationship between information available to parents and characteristics of the child care market (such as the level and dispersion of prices)*** — Economic theory implies that as information about a particular good or service is more fully disseminated, the market price of that good or service should fall, and the dispersion of prices should also decrease. Chipty and Witte (1998) find empirical support for this hypothesis using information on child care resource and referral (R&R) agencies. If the new round of the provider survey includes information on R&R agencies, additional research would be able to address this issue with current data. It would be particularly interesting to see whether this relationship is the same in low-income markets as in markets serving **higher-income** parents.

- ***Assessing parents' information about the child care market.*** In addition to examining the effects of information dissemination on the child care market, combining the parent and provider data would also allow researchers to assess the quality of parents' information about the market. Previous research has shown that, on average, parents and providers in a community report similar characteristics of providers in the market. However, additional research could evaluate how much individual low-income parents know about the characteristics of the full set of child care providers in their community.

1. Target Population, Sampling Strategies, and Sample Size Considerations

The 1990 PCS and NCCS samples were based on two-stage sample designs. In the first stage, a random sample of 100 counties or county groups that was representative of counties in the U.S. was selected. Counties were stratified by region, metropolitan status, and poverty level, and they were selected for each stratum with a probability proportional to the size of the population younger than age 5. This formed the set of communities from which both the PCS and NCCS samples would be drawn.

In the second stage of the PCS sample design, a stratified random sample of providers within the sample of counties was drawn. Providers were sorted into strata according to type — Head Start programs, public-school-based programs, other center-based programs, and regulated home-based programs — to ensure that each category of provider would be represented. The PCS relied on lists of regulated providers in each county to provide a sampling frame.

The second stage of the NCCS sample design was based on random-digit-dialing (RDD) methods to sample parents for the survey in the selected communities. Thus, the sampling frame for the NCCS was households with telephones in each of the 100 selected counties and county groups. Families were eligible for the NCCS if they had a child under age 13. The cost of obtaining a sample via RDD was acceptable for the NCCS because the proportion of households

eligible for the survey in any community was relatively high. The major drawback to an RDD survey is that it excludes households without telephones.

We recommend repeating the parent and provider surveys in the same communities as were originally sampled for the PCS and NCCS. This would enable direct comparisons of changes within these communities in the amount of care supplied, staff characteristics, staffing patterns, types of care used, costs to parents and fees received by providers, and a number of other topics. Although a newly selected sample of communities would also **allow** us to infer changes in these outcomes in the U.S., it would add a source of variability to the estimates.

While the sample of communities used in the PCS and NCCS were representative of the U.S. in 1990, these communities would not necessarily be representative of the U.S. in 1999 or 2000, when the new studies would be conducted. Thus, a new set of weights would need to be developed to make these communities representative of the underlying population of families with children under 13. If the characteristics of this population changed dramatically between 1990 and 2000, “refreshing” the sample by adding a few new communities should be considered. These new communities would be drawn from sample strata that have grown relative to other strata over this period, which should reduce the variance of the resulting estimates.

The most cost-effective data collection method for both the parent and provider surveys is computer-assisted telephone interviewing. Telephone interviews were used for the PCS and NCCS surveys in 1990. While child care providers should virtually all be reachable by telephone, many low-income households do not have telephones, so this population will be under-represented in the survey (the next subsection further discusses sampling strategies).

The final 1990 PCS sample included 2,089 center-based early education and care programs (including 217 Head Start programs, 437 public-school-based programs, and 1,702, centers) and

583 regulated home-based programs. The survey response rate was 89 percent among centers and 87 percent among regulated home-based programs (Kisker et al. 1991).

The final NCCS sample included 4,392 parents, though the overall response rate was only 57 percent. In addition, the proportion of households with a child under 13 identified by the study's initial screening interview was much lower than expected (16 percent versus 30 percent). This smaller-than-expected percentage of families with children "suggests the possibility of hidden refusals by families **with** children who denied that they had children" (Hofferth et al. 1991).

The sample sizes used in the original PCS and NCCS studies are useful starting points in considering how large the samples should be in the new provider and parent studies. The PCS sample of 2,089 center-based programs was large enough so that an estimate of the mean of a binary outcome of 0.50 would have a 95 percent confidence interval of 0.468 to 0.532, even after taking into account the complex sampling design (Kisker et al. 1991). This confidence interval is sufficiently narrow so that inferences about the mean characteristics of center-based programs and comparisons of the characteristics of different types of center-based programs could be made with a reasonable degree of confidence. The PCS sample of center-based programs was also large enough to support precise estimates of the mean of continuous outcomes. Assuming a mean wage of \$8 per hour and a standard deviation of \$3 among center teachers, the 95 percent confidence interval based on this sample would be approximately \$7.81 to \$8.19.

Two considerations suggest that a larger sample of center-based providers might be appropriate in a new provider survey, however. First, if the survey is repeated in the same communities, it is likely that the sample weights would need to be more variable than in the original survey. In particular, providers from communities in sample strata **that** grew rapidly .

during the 1990s would likely be under-represented in the new survey, and their associated sample weights would be increased. Conversely, those from communities in sample strata that became smaller over the past decade would be over-represented in the new survey, and their sample weights would become smaller. This increase in the variance of the sample weights would reduce the precision of estimates from the provider survey. An increase in the sample size from its previous level of 2,089 might be necessary to maintain the level of precision of the PCS. The sample size would be increased most efficiently (with respect to raising the precision of the estimates) by selecting new communities from which to draw new providers into the sample rather than by selecting additional providers from each of the existing communities. Furthermore, these communities should be drawn from strata most likely to be under-represented in the new survey.

Second, the overall sample size **should** be increased if particularly important subgroups of the total sample of center-based programs will be the focus of much of the analysis. For example, if nonprofit center-based programs will be separated **from** other center-based programs and studied extensively, then the key measure of precision is the 95 **percent confidence** interval for the 1,436 nonprofit centers. For a binary outcome with a mean of 0.50, the 95 percent confidence interval for this sample is 0.464 to 0.536. If this confidence interval is not considered sufficiently narrow, then an increase of 25 percent in the sample size might be considered. If this increase is accomplished by selecting 25 percent more communities, then the 95 percent confidence interval for the new sample of 1,795 non-profit centers would be 0.468 to 0.532.

Although raising the total sample size by bringing in additional communities will raise subgroup sample sizes and increase the precision of estimates based on subgroups, some subgroups are so small that raising the overall sample size would not be an **efficient** means of

increasing the precision of estimates for these subgroups. For example, there were 213 Head Start programs among the 2,089 center-based programs in the PCS. The 95 percent confidence interval for this subgroup would be approximately 0.422 to 0.578. Increasing the sample by 25 percent to 266 would narrow this confidence interval, but only to 0.430 to 0.570. This confidence interval might still be considered too wide if Head Start programs are a key subgroup within the larger sample of center-based programs. Furthermore, if this approach were used to raise the sample of Head Start programs to a size that would narrow the confidence interval to 0.46 to 0.54, the number of Head Start programs in the sample would have to be 804, the total sample size would have to be 7,885, and the number of communities selected would have to be 377. This increase in the overall sample by a factor of nearly four would clearly not be a feasible way of ensuring a sufficient number of Head Start programs to generate precise estimates. An alternative approach would be to oversample Head Start programs and develop sample weights to ensure that the total sample would be representative of the overall population of center-based providers.

The PCS sample of 583 regulated home-based programs led to a 95 percent confidence interval of 0.444 to 0.556 for a binary outcome with of mean of 0.50. If this confidence interval is considered too wide and this group of regulated home-based providers is an important one for further study on its own, then increasing this sample size should be considered. To narrow its confidence interval to 0.460 to 0.540, we would need to add additional home-based providers to the sample until it reached 1,140.

The sample size considerations for the parent survey are similar to those for the provider survey. The NCCS sample of 4,392 generated a 95 percent confidence interval of 0.481 to 0.519 for a binary outcome with a mean of 0.50 (Hofferth et al. 1991). The overall level, of precision

associated with this sample seems good, though the same considerations that would lead to an increase in the provider sample size might also justify an increase in the parent sample size. For example, the overall sample includes 1,272 cases in which the youngest child is under 5 and the mother is employed. The 95 percent confidence interval for this sample is 0.466 to 0.534. However, if the true group of interest is *low-income* households with children under 5 and in which the mother is employed, the sample would be smaller and the 95 percent confidence interval would be larger.¹ Again, if this is a subgroup of particular importance, then oversampling this group should be considered.

To summarize, the PCS and NCCS sample sizes led to reasonably precise estimates of key outcomes for the full samples and are a useful guide for selecting sample sizes for new supply and demand surveys. However, a likely increase in the variance of sample weights in these new surveys suggests that a moderate increase in the sample size will be needed to maintain these levels of precision. Furthermore, if key subgroups of the full supply and demand sample are likely to be frequently studied in isolation, then strategies for increasing the sizes of subgroup samples should be explored. As mentioned, one such strategy would be to increase the size of the overall sample, which should lead to increases in the sizes of each of the subgroups within the overall sample. For small subgroups, however, a more efficient strategy for increasing the size of samples would be to oversample from the most important subgroups and develop sample weights to make the total sample representative of the overall population. For the sample of child care providers, subgroups of particular interest might be regulated home-based providers, for-profit? versus nonprofit center-based providers, or different types of nonprofit center-based providers. For the parent sample, key subgroups might be defined by the income of the parents,

whether the household includes one adult or more than one adult, whether the mother (if in the household) is employed, the age of the youngest child, and the **race/ethnicity** of the parent(s).

Two additional aspects of the parent survey are worth consideration. First, the NCCS had a relatively low response rate of 57 percent, and it would be useful to consider ways of improving the RDD screening introduction to encourage households to participate in the survey. We recommend devoting some resources during the planning period of the study to draft and test several different versions of the introduction to find one that is most likely to encourage participation in the survey. Since the interviewer will have only about 10 seconds to gain the interest of the potential respondent on the telephone, it is also worth sending out advance letters describing the study and encouraging participation before the interviewer calls. Second, it is worth thinking about sampling strategies that might be used to include respondents without telephones. A limited amount of in-person interviewing might be considered in combination with optional studies (described below) that would also require in-person interviewing in selected communities from the full study. Because of the high cost of managing in-person data collection in multiple sites, it would probably be necessary to limit these efforts to a subsample of sites, as we discuss further below.

2. Data Collection Methods and Content

The provider survey should collect information to address the following questions:

- What is the supply of formal child care in the U.S. by type and age of child? What unused capacity exists? What is the extent of child turnover in formal care?
- What is the structure of formal care organizations? What are the major expenditures child care providers face? What are the major income sources received by providers?

- What are **staffing** patterns in formal care in terms of **staff** per child, staff education and training, and salaries and benefits paid?
- What fees do providers charge for different types of care and for children of different ages?
- How have child care enrollments, staff characteristics, **staffing** patterns, fees, and expenditures changed over the past quarter-century?

The parent survey should collect information to address the following questions:

- What types of child care arrangements do families use for their preschool and school-age children while parents work? What arrangements are used for children with a parent at home? How many hours do children spend in nonparental care?
- What proportion of families pay for child care? How much do they pay, on average? What proportion of their family income goes to child care? What proportion of families receive help paying for child care? How much help do they receive, and from what sources do they receive it?
- How did families learn about their current child care provider? What factors were important in choosing their child care provider? What types and features of child care do they prefer?
- What is the quality of child care arrangements from the parents' perspective?
- How much time is lost from work because of child care problems? What kinds of leave do parents have and how often is it used for child care problems?
- How much flexibility do parents have in their jobs, child care arrangements, and family support?

3. **Optional Study of the Quality of Child Care**

The national child care provider study would be greatly enhanced by a study of the quality of child care. Quality is an important dimension of child care that policy seeks to affect, and having no information on the quality of care in the U.S. has been a serious problem for child care policy. The studies completed to date, including the four-site study of center-based care (Helburn et al. 1995) and the three-site study of home-based child care (Galinsky et al. 1994),

have measured quality in selected sites, but not in nationally representative sites. Although ratios and group size are not highly correlated with quality, researchers fall back on these measures when more direct quality measures are missing, but the conclusions drawn are questionable if proxies for quality are not highly correlated with quality. For instance, we find that many child care settings have acceptable child care ratios, but poor or mediocre quality.

If a quality **substudy** were added to the provider study, it would entail observations of child care settings and interviews with center directors and family child care providers. The interviews would be essentially the same as the telephone interviews already recommended, although it might be necessary to ask more questions in order to obtain all of the information needed for the quality measures. It would be possible to include parent ratings of quality among the measures, but to do so, one would need to select one or more parents at random and either conduct a short telephone interview or ask the parent to complete a self-administered questionnaire. The observational study would require the observer to spend a minimum of two hours in the child care setting in order to see enough of the environment and the provider interacting with children so that the quality measures would be reliably coded.

To reduce the potential costs of the quality study, it would be possible to include fewer child care providers than would be needed for the main study. To reduce the number of providers in the most cost-effective way, it would probably be best to choose a subsample of communities, rather than a subsample of providers within all of the communities. Communities should be chosen randomly from the strata used for the main study, but fewer would be chosen so that data collection resources could be more efficiently deployed to fewer communities.

Assuming that 20 center-based providers are selected for each community in the subsample, a subsample of 20 communities would lead to a sample of 400 center-based providers for the

quality study. If the design effect for this sample is the same as the average design effect in the full PCS sample (2.16, according to Kisker et al. 1991), then for a binary outcome with a mean value of 0.50, the 95 percent confidence interval for this sample would be 0.43 to 0.57. Selecting a smaller sample of communities would lead to a wider confidence interval, while selecting a larger sample would lead to a narrower confidence interval. For example, the confidence interval would be 0.40 to 0.60 for a sample with 10 communities and 200 providers, 0.44 to 0.56 for a sample with 30 communities and 600 providers, and 0.45 to 0.55 for a sample with 40 communities and 800 providers.

4. Optional Study of Nonregulated, Home-Based Providers

An important drawback to this research design is that it limits the study to regulated child care, when unregulated forms of child care can be such a substantial proportion of providers of care for low-income families. In addition, regulations may have spillover effects on nonregulated forms of care. Spillover effects can occur because providers compete not only within the same type of care (for example, competition among centers) but also with providers of other types of care. Parents view center-based and home-based care as substitutes to some extent. As a result, if the cost of providing one type of care increases significantly so that its price must increase, parents may choose the other type of care, leading to changes in the quantity supplied and price of that type of care. In addition, because parents' search costs for child care are high, providers can compete on non-price characteristics of care by differentiating their product, thereby avoiding competing on price. One of the ways in which providers differentiate their services is by offering different levels of quality care. Therefore, we would also look for

spillover effects on the quality of care provided when regulations change in a different child care market.

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Any studies of the child care market will be weaker if information about the nonregulated sector is unavailable, because nonregulated providers make up a large proportion of the supply of home-based child care. For example, researchers used the PCS and NCCS to analyze the effects of child care costs on employment decisions using information on actual market costs by type of care estimated from the PCS, but the PCS could only provide an estimate of the cost of regulated home-based and center-based care. Similarly, researchers examined the effect of particular quality regulations in different states on the quantity, price, and quality of the child care that was the target of the regulation, as well as the responses of its competitors. These studies were also incomplete because they could not inform us about the response of the nonregulated sector.

An alternative design that would include all forms of child care for low-income families is a community-based study that would sample all child care providers in a given area. Providers would be sampled using RDD methods or through more direct, in-person methods, including neighborhood canvassing, contacting knowledgeable individuals in the target communities, or asking parents from the demand study to name their child's provider. The National Study of Child Care for Low-Income Families, sponsored by ACF, a study focusing on family child care, of which non-regulated is a part, is pursuing more intensive, community-based strategies, but the community design does not provide a nationally representative picture of the supply of child care.

The main obstacle to extending the study to nonregulated child care is that response rates are typically low for any of the methods described above. Many people do not want to participate in surveys, and this is a more serious problem when one of the targets of the survey is a group of

providers who may be operating illegally. Moreover, if one has to contact providers by first talking to parents, the interviewer must convince two people to cooperate with the survey in order to obtain a single data point, further reducing response rates.

A methodological study might tell us something about how to improve both response rates in child care studies and the validity of the information obtained **from** these studies. For this kind of study, focus groups would be assembled with child care providers of all types in **low-income** areas, helping researchers understand how to approach providers, secure their cooperation, and explain their thinking on cost and quality issues that surveys ask about. Since response rates were also low for the parent study, it may be equally useful to assemble focus groups of parents to discuss how to obtain their cooperation with a survey effort in general and with a request to help contact their child's provider for a linked provider study.

To reduce the cost of broadening this study to include informal child care, it may be possible to use a sub-sampling approach, in which a subset of the communities chosen for the main study would be selected for the broader study that would include nonregulated child care. As long as the selections were made within the original strata used for the main study, the resulting sample would be useful for learning about the nonregulated child care sector. This was suggested for the quaiity study, and the same subset of communities could be used for the nonregulated and the quality sub-studies, if these options were exercised. The same sample size considerations important for the quality sub-study (as described in Section **B.3**) would also apply to the **sub-**study of nonregulated care.

5. Schedule and Plan for Implementation

The basic versions of the supply and demand studies described here could be conducted in a three-year period. In the first year, the sample frames would be developed and questionnaires would be designed with input from a technical work **group** to ensure that the surveys address the most important policy areas and use the most reliable forms of questions. The survey would be conducted during the second year of the study. The third year of the study would be devoted to data analysis and reporting.

If the optional quality or informal care studies were conducted, the time line for the study would need to be extended by about one year. The planning phase would extend to about 18 months to accommodate the time needed to plan for the in-person data collection and to conduct the focus groups necessary to develop procedures for improving response rates. The data collection phase would be extended to about 15 months to accommodate the in-person interviewing, and the data analysis phase would be extended to 15 months to accommodate the additional data.

‘About 20 percent of the total NCCS sample had household incomes below \$15,000. If this percentage is applied to the sample of households with an employed mother and child under 5, then the number of cases in this group that are low income would be approximately 250 and the 95 percent confidence interval would be 0.436 to 0.564.

IV. EXPLORATORY STUDIES

In this chapter, we propose designs to address areas of child care that have received only scanty attention to date. The lack of research investment in these areas probably reflects the fact that a relatively small fraction of families or providers can be studied. As a result, efforts to establish a knowledge base have been limited – in terms of data collected and conceptual progress made -- which, in turn, has made it difficult to design policies to improve the affordability, quality, and flexibility of child care for low-income families.

To begin to establish a body of research in these three areas, we propose a sequence of studies that begin on a small scale and build as information is established until we have a firm basis for a large-scale study in each area that will provide reliable, broadly representative information. The specific areas in which we propose such a multi-stage research program include:

- ***Participation in child care subsidy programs*** — Who is served by subsidy programs and what factors affect families' participation decisions?;
- ***Out-of-school care*** — What do parents want from out-of-school care, how is quality defined and measured for out-of-school care, and what are the characteristics of out-of-school care for low-income children of employed parents?
- ***Development of quality child care*** — How can quality child care be developed in low-income neighborhoods? What are the essential combinations of features of child care that produce positive outcomes for children?
- ***Promotion of employer policies to encourage job and child care flexibility*** — What policies would encourage employers to increase the flexibility of jobs they offer or help families secure flexible child care? What are the costs and benefits to employers and families of policies that seek to add flexibility to jobs and child care ?

A. PARTICIPATION IN CHILD CARE SUBSIDY PROGRAMS

The design of child ~~care~~ subsidy policies has been made more **difficult** because we lack information on two very fundamental questions:

- What proportion of families eligible for child care subsidy programs are being served, and which eligible families are most likely to be served?
- What factors influence families' decisions about whether or not to participate in child care subsidy programs?

A lack of information about the first question has made it difficult to predict when eligibility and benefit policies are targeting families most in need, and whether the resources invested in child care subsidy programs are **sufficient** to meet the greatest need. A lack of information on the second question has made it difficult to predict the cost of alternative reforms to child care subsidy policies. We discuss research designs that would address each of these questions.

1. Estimating Who is Served by Child Care Subsidy Programs

Since the **mid-1970s**, welfare policymakers have had information about which families are served by the Food Stamp Program and cash welfare programs. The information about eligible families came from microsimulation models, which consist of a nationally representative database of households and a computer program that evaluates each household according to the established set of rules for program eligibility and benefits, and then aggregates information about the households so that the results can be used for policy analysis. Information about which families were participating also came from the nationally representative database of households, but was verified with the program's administrative data on the number and characteristics of participating families. Policy analysts can use a microsimulation model to identify which

eligible groups of families are most likely to be served by the program and the level of benefits received. The models ~~can~~**also** be used to estimate the likely effects of a change in current policy on family-level outcomes of interest and on program costs and caseloads.

We do not yet have a similar **analytic** capability for child care subsidy programs primarily because of a lack of household-level data that indicates who is participating in these programs and a lack of reliable data from each state on the number and characteristics of participants in child care subsidy programs. Here, we outline a strategy for obtaining the information we need to analyze who is being served by child care subsidy programs, the level of benefits received, and how changes in child care subsidy policies would change the mix of families served and the level of benefits received.

The most promising way to build the capability for estimating the number and characteristics of eligible and participating families is to use a microsimulation model. Because of the large variation in state welfare and child care policies, it would be useful to have a microsimulation model that weights a national database to represent each of the individual states and then allows the user to simulate TANF and child care program rules in each of the states on a longitudinal basis. State weights could be based on state-specific demographic information from the CPS and Food Stamp Program administrative data. The SIPP, with its information on household composition, employment, program participation, and child care choices and costs over time, could provide a longitudinal database of families for simulation.. The microsimulation model would be most useful if it could simulate different welfare and child care program rules for each state as well as the interactions between welfare program rules and child care program outcomes.

Currently, microsimulation models are used for a wide range of policy simulations in the welfare and Food Stamp policy areas. Some additional work is needed to improve our ability to

use microsimulation for child care policy analysis. The SIPP data need to include information on which families are participating in child care subsidy programs, how much they are paying for child care through the sliding fee, and any extra amount they are paying for child care above the sliding fee. This idea was discussed in the previous chapter as an enhancement to the SIPP. Data are not yet available from the states on the characteristics of families and children participating in child care subsidy programs, and in past years, this information could not be obtained uniformly and completely for all of the states (ACF 1993). Thus, more work needs to be done to improve the quality and timeliness of reporting by states about child care program participation.

The microsimulation model would need to contain welfare and child care policy parameters that reflect current state law (information that was not available when the model was developed). Information compiled from state CCDBG plans covers the rules for child care programs and some information on administrative practices across the states (NCCIC 1998). The microsimulation model should also have the ability to either run individual state policy simulations or a series of state-specific simulations. This would enable the analyst to estimate the characteristics of the population eligible for child care subsidies in each state, using TANF and child care program rules that apply in each of the states.

2. Understanding Child Care Program Participation Decisions

More information is **also** needed on how child care subsidy policies affect the participation decisions of families because states need to know how eligible families would be likely to respond to proposed policy changes. Participation decisions could be examined as part of the child care subsidy demonstration described in Chapter II, since that design involved changes ‘in child care policy parameters that may lead to changes in a family’s willingness to participate. The demonstration design also involved simplifying several types of administrative rules and practices that may affect child care program participation, including how welfare recipients and other low-income families are informed about child care assistance, and how simple the application process is. States involved in the demonstrations may differ in their policies governing the use of informal child care, which may also affect participation decisions.

As part of the child care subsidy demonstration, families in the welfare sample could be interviewed six months after entering the demonstration about participation issues, since most states try to provide child care assistance to welfare recipients who need it in order to work. Focus groups of parents might tell us more about participation decisions, child care choices, and the extent of parents’ knowledge about their eligibility for assistance. Researchers would need to identify the administrative rules and practices that seem most important and obtain more data on these state policies and practices for the research sites. Alternatively, if a state is about to change one of these administrative rules or practices in a significant way, it may be possible to compare participation rates and characteristics of participants before and after the policy change to learn something about its effects.

B. OUT-OF-SCHOOL CHILD CARE

The design of child **care** policies to help low-income parents with school-age children has been more difficult because very little is known about some of the most fundamental questions surrounding school-age child care:

- What kind and features of child care do parents want for their school-age children, and how much would that cost? How does this differ by the age of the child and neighborhood characteristics?
- How important is assistance with different types of out-of-school care to parents' employment, including before- and after-school care, care during school breaks and holidays, and care during the summer?

A lack of information about what kinds of assistance with out-of-school care would promote employment among low-income parents has made it difficult to develop child care policies for school-age children. As a result, the near-term agenda for research on school-age child care is to develop measures and collect descriptive data that would help us understand what child care policies toward school-age child care would help promote the employment of low-income mothers. Once some of the basic questions have been answered, it would be possible to develop and test interventions intended to improve quality, affordability, or access to child care for school-age children. In this section, we describe some of the basic questions and proposals for research.

An initial stage of research on school-age child care easily could be added onto the research demonstrations proposed in Chapter II, since these demonstrations would provide access to a sample of welfare mothers and low-income mothers not receiving welfare. Research on **school-**age child care should proceed first with focus groups of mothers of school-age children, who could be recruited during the implementation phase of either demonstration. The purpose of the

focus groups would be to sharpen our understanding of the child care issues faced by low-income mothers of school-age children.

The focus group study should explore what low-income parents want for school-age child care. What types and features of child care are available, and what would be ideal for their children? What would be necessary to keep them employed when the child is out of school? For this question, we would want to ask focus group members what they want from a child care arrangement, what price they are willing to pay, how difficult it is to find such care, and what difference school-age child care would make for their employment decisions. The focus groups should especially include subgroups of mothers who have various “combinations” of children needing care, such as mothers with younger school-age children, those with older school-age children, those with preschool-age children and school-age children, and those with younger and older school-age **children**. The focus groups should explore the need for and problems arranging all types of school-age care, including care during school holidays and other days off, care during week-long and summer-long school vacations, and care before and after school.

Work is also needed to conceptualize quality in school-age child care for children of different ages and across settings. Most of the effort to date to develop measures of quality for school-age child care has focused on formal settings, but a large proportion of school-age children are cared for in informal settings, including self-care. What dimensions or features of child care are important for school-age children of different ages and in different child care settings? What measures of quality and other features should be used? This work could be conducted in parallel with the focus group study and informed in part by what is learned from that study. Deborah **Vandell** and others have begun some conceptual work to identify aspects of quality in school-age child care that apply across child care settings and ages, and their work would be **important** to

this part of the study. Following this phase, a larger descriptive study of mothers and their school-age child care arrangements conducted in selected demonstration study sites would help to obtain a more representative picture of the types of child care used, the problems faced in arranging child care and pursuing employment, and the quality of child care. Measures of the quality of school-age child care arrangements should be developed for this study.

The study would include interviews with mothers to learn about the types, features, and perceived quality of child care available to their school-age children while they work. This study should ask about child care used during all times that children are not in school, including care during school holidays and other days off, care during week-long and summer-long school vacations, and care before and after school. The recent study of low-income school-age child care included a relatively small sample of working parents; the study we propose should focus on low-income working parents to learn about how they arrange child care while they work. One or two of the types of school-age care should be selected for a quality study — for example, **after-school** care and/or summer care. Measures of the quality of school-age child care settings should include the perspectives of parents, children, and a trained observer.

With information from the focus groups about the aspects of school-age child care that would make a difference for employment, and information on the quality and supply of school-age child care, a demonstration could be designed to look at interventions that would improve the quality or accessibility of school-age child care in ways that would promote employment. Other ideas for further research could also be developed.

C. DEVELOPMENT OF QUALITY CHILD CARE

High-quality child ~~care~~ is relatively rare in low-income neighborhoods, and policymakers interested in improving quality need to know what approaches work best to improve the quality of child care in a community. What ongoing training approaches should be used for staff already providing care? What prior education and training should be required of new staff members to ensure quality? What background should center directors have to support quality? What will quality enhancement and maintenance cost?

To address these questions, research should proceed along two parallel tracks: (1) identify and measure the characteristics of high-quality center-based and home-based arrangements that seem to distinguish them from lesser-quality arrangements of the same type and (2) evaluate some of the more promising approaches to improving quality that are being initiated across the country.

1. Identify and Measure Characteristics of High-Quality Child Care

Blau (1997) and Mocan (1997) have used existing data to measure the correlation between characteristics of child care centers and levels of quality. Their research indicates that the features we have measured and that are viewed as strong correlates of quality only explain up to about half of the variation in quality observed in a sample of centers. Therefore, this research project should begin with a process study examining high-, medium-, and low-quality child care centers and child care homes to consider what measurable features, or “inputs” seem to be associated with higher-quality child care. Attention should focus on ways in which inputs may be successfully traded off in producing high quality — for example, more highly educated staff may be combined with higher child-staff ratios than are commonly associated with quality. Parent

perceptions of the quality of these arrangements could be obtained through focus group studies or short questionnaires, **and this** may contribute useful insights into the factors associated with quality.

Once more of the important features of quality arrangements and combinations of inputs have been identified, researchers should collect information on these features in a large-scale study of child care quality (for example, in the study of quality that could be added onto the child care supply study described in Chapter III). Researchers could then use regression techniques to analyze the strength of the relationships between these inputs and measured quality. Regressions measuring the relationship between inputs and quality should be carefully specified (based on the process analysis of child care arrangements of different quality) to capture interactions and tradeoffs between inputs that may be intrinsic to quality child care services. For example, if staff education and child-staff ratios can be traded off to some degree, the simple relationship between ratios and quality will not be very strong or explain much of the variation in quality. However, the combined effect of education and ratios, taking into account the tradeoffs between inputs, will pick up more of the variation in quality. Research should proceed separately on **center-based** and **home-based** arrangements.

This study could be conducted as an extension of the national survey of child care providers, discussed in Chapter III, if the option to conduct an observational **substudy** of child care quality as part of that survey were also exercised. The process study of quality programs compared with other programs could be conducted during the first year, when planning for the provider survey would occur. And the additional measures of quality could be developed at the same time. The observational **substudy** of quality would therefore include the additional measures developed during the process study, including parent ratings, and the data analysis would include an

examination of the extent to which the measures of quality explain variation in the observed quality of centers and homes. Because of the need for OMB clearance for data collection instruments used in the provider study, the planning period for the provider study may need to be extended for up to six months.

2. Evaluate Current Initiatives to Improve Quality of Care for Low-Income Families

Several initiatives across the country are attempting to improve the quality of care for low-income families. North Carolina's Smart Start and T.E.A.C.H. education initiatives are designed to improve the quality of child care across the state. Child care agencies in Jacksonville and Seattle administer quality enhancement systems that require providers to meet relatively high standards while receiving technical assistance, training, and referrals of families from the agency enforcing quality standards. Wellesley College's Center for Career and Development in Early Care and Education is supporting several community-based approaches to quality development, including Taking the Lead, an experiment in director credentialing in four sites, and Emerging Leaders, experiments in six or more sites that take a variety of approaches to improving child care quality within communities.

We recommend that researchers look more closely at these models and others to determine how fully they have been implemented and to gain a sense of how successful they may have been at enhancing the quality of child care in low-income neighborhoods. A few of the most promising models should be selected for a more in-depth study of the level of quality achieved and critical steps in the process of improving quality. This information could be used by communities that want to replicate any of the approaches to improving quality. It would be helpful to identify any opportunities to evaluate the original quality enhancement initiatives

through, for example, pre-post studies, comparison-community studies, or other comparison designs. Alternatively, ~~if~~ the information obtained from the in-depth study is used by other communities to replicate the original models, their efforts could be evaluated.

D. PROMOTING EMPLOYER POLICIES TO IMPROVE JOB AND CHILD CARE FLEXIBILITY

Existing information suggests that job, child care, and family flexibility are potentially serious issues for some low-income parents leaving welfare for work. Few employers and formal child care providers offer flexible job benefits or flexible child care services to low-income families. Yet, Emlen (1997) has argued that mothers can only continue working if they find sufficient flexibility in their jobs, child care, and family support. With sufficient flexibility in one or two of these areas, mothers can manage even with a high degree of inflexibility in the third area.

Researchers in this area face several difficulties. One problem is sample selection, and both the magnitude and the direction of the bias is not clear. Mothers who have flexible jobs or flexible child care arrangements may have chosen them out of great necessity, and thus, research on mothers with flexible jobs and child care compared to those with inflexible jobs and child care would overstate the impact of providing flexibility more generally to parents who do not need it as much. Alternatively, if parents with flexible jobs and child care are more clever at finding good arrangements rather than more in need of such arrangements, research comparing the group with flexible arrangements to the group with inflexible arrangements may understate the impact of more readily available flexible jobs and child care arrangements, since many parents who could not find flexible jobs or child care may show a greater employment response to such arrangements.

A second problem for researchers is the difficulty of identifying a sound design for a demonstration or intervention because the appropriate roles for government are not obvious. Interventions in this area would be important but are potentially laden with political and economic issues. The government could encourage employers to offer flexible job benefits or flexible child care through mandates or by paying employers a portion of the cost of the benefit. It would be useful to offer employers the choice of providing flexible benefits or flexible child care, since some employers will find the flexible leave to be **less costly** while others, with more inflexible staffing needs, will find the flexible child care to be less costly. The government could also subsidize child care providers so they could offer more flexible arrangements, but the problem here is that we do not know what amount of subsidy would produce the response needed from child care providers. Moreover, if financial incentives alone are offered without any technical support or assistance, the initiative may simply bring forth lower-quality providers who are having **difficulty** filling slots and see this as an opportunity to increase their incomes. Some research on the size of financial incentives and types of technical assistance needed to bring forth a supply of basic-quality child care could be done as part of a process study in conjunction with the quality/flexibility demonstration described in Chapter II, Section B.

Another role for government would be to sponsor research on the effects of flexible jobs or child care options on employers and employees, disseminating the results to employers and the public more generally in order to build a case that such benefits should be offered. Many employer initiatives are being developed and implemented, and it may be possible to work with an employer to conduct more methodologically sound research on the effects of various flexible job and child care benefits if one were aware of changes that were being considered. A pre-post study of different cohorts of low-income parents before and after a set of flexible benefits were

introduced would be an improvement over current research, which compares people who work at flexible and inflexible jobs, who may have sorted themselves into these jobs out of necessity.

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APPENDIX A

LIST OF PARTICIPANTS IN THE ACF FORUM

3

LIST OF PARTICIPANTS IN THE ACF FORUM:

3 Child Care and Labor Force Attachment

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**Sustaining Employment
Among Low-Income
Parents: The Problems of
Inflexible Jobs, Child
Care, and Family Support**

A Research Review

Final

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I. INTRODUCTION

Low-income parents face significant challenges in combining employment and child-rearing responsibilities. Parents with low-wage jobs often lack the flexibility they need at work to manage family responsibilities. For example, many of these workers do not have control over their work schedules. Low-wage jobs tend to offer few benefits such as sick or annual leave. Often, when a child is too sick to attend child-care or the child's regular provider is unavailable, parents who must take time off from work to care for their children risk losing their jobs (Hershey and Pavetti 1997; and Rangarajan 1996).

At the same time, only a very limited number of regulated child care arrangements offer flexible hours to parents with inflexible, low-wage jobs (Collins and Li 1997; Hofferth 1995; Kisker and Ross 1997; Siegal and Loman 1991; U.S. General Accounting Office 1997; and Willer et al. 1991).

Low-wage jobs often require work during early morning, evening, night, or weekend hours, and they often have schedules that change on a weekly basis. However, most regulated child care centers and family child care homes are not open during nonstandard hours and require a regular schedule of attendance. Furthermore, although many parents lack sufficient leave time from work to care for sick children, most regulated child care providers will not accept sick children in group care settings.

Inflexible jobs and child care arrangements pose serious problems for a large number of low-income working parents, especially those trying to leave welfare and enter the workforce. These parents struggle to manage both employment and child-rearing responsibilities. Ultimately, most parents are forced to take time off work, which, in turn, may lead to fewer work hours or job loss (Rangarajan 1996). Some parents can rely on relatives and friends to provide child care when problems arise, but many do not have such resources.

The challenges faced by low-income single parents who are combining work and childrearing responsibilities may be **greater** as the number of hours of work increases. Federal requirements for work participation for welfare recipients are increasing, beginning at 20 hours per week in fiscal year 1997 and increasing to 30 hours per week by fiscal year 2000 and beyond. The increase in required work hours may put greater stresses on child care arrangements and family support networks for these families.

The difficulties of balancing work and child-rearing will affect a large proportion of families leaving welfare, because many families receiving cash assistance have young children. In 1995, nearly half the children receiving cash assistance were under age 5, and one-third were in grade school; all these children would have needed child care if their mothers had worked. Furthermore, single women head most families receiving cash assistance, and for many of them, there is no other adult in the household who can help provide child care (U.S. House of Representatives 1998).

In this paper, we review the literature that addresses flexibility in family situations, jobs, and child care as it relates to the ability of parents to be employed over time. Our purpose is to develop a research agenda to inform the design of child care policy regarding families leaving welfare for work and low-income working families in general. A companion paper will review the research on the links between the cost of child care and employment. Another companion paper will focus on the relationship between the quality of child care and employment.

This chapter addresses the way inflexibility in jobs and child care arrangements can lead to problems in managing work and child-rearing responsibilities. Chapter II examines research measuring the extent of inflexibility in low-income parents' family support, jobs, and child care arrangements. We consider ways in which flexibility along these dimensions may be related to employment retention. In Chapter III, we describe what we know about policy options for increasing

flexibility in family support, low-wage jobs, and child care. Chapter IV concludes with a summary of what we know about flexibility and employment retention and proposes an agenda for future research.

A. A FRAMEWORK FOR ADDRESSING FLEXIBILITY ISSUES

Arthur Emlen has identified flexibility as a major criterion parents use when choosing a child care arrangement (Oregon Child Care Research Partnership 1997). For example, parents with inflexible jobs (airline flight attendants, for instance) who need care for children in an emergency may seek out child care arrangements that are reliable and will permit them to change their work schedules or pick up children late on short notice. Families with in-home care providers (nannies or au pairs) often have this flexibility. Many parents who choose to use high-quality, center-based care, which tends to keep inflexible hours, have more flexible jobs and greater family support so that the inflexibility of their child care arrangement is not a problem. Emlen's research suggests that employed parents select an affordable and good-quality child care arrangement that complements the flexibility they have in their job and family circumstances (Oregon Child Care Research Partnership 1997).

Emlen notes that three sources of flexibility seem to stand out: (1) job flexibility, (2) family flexibility, and (3) child care flexibility. Job flexibility is the ability to change work schedules or take leave time to care for children when child care arrangements break down or children are sick. An individual with a high degree of job flexibility would always be able to respond to a child-care-related emergency by taking time off work, working at a different time of the day, or working at home while caring for children. Family flexibility is the presence of a trusted adult—a family member or friend—to care for children whenever regular child care arrangements are not available

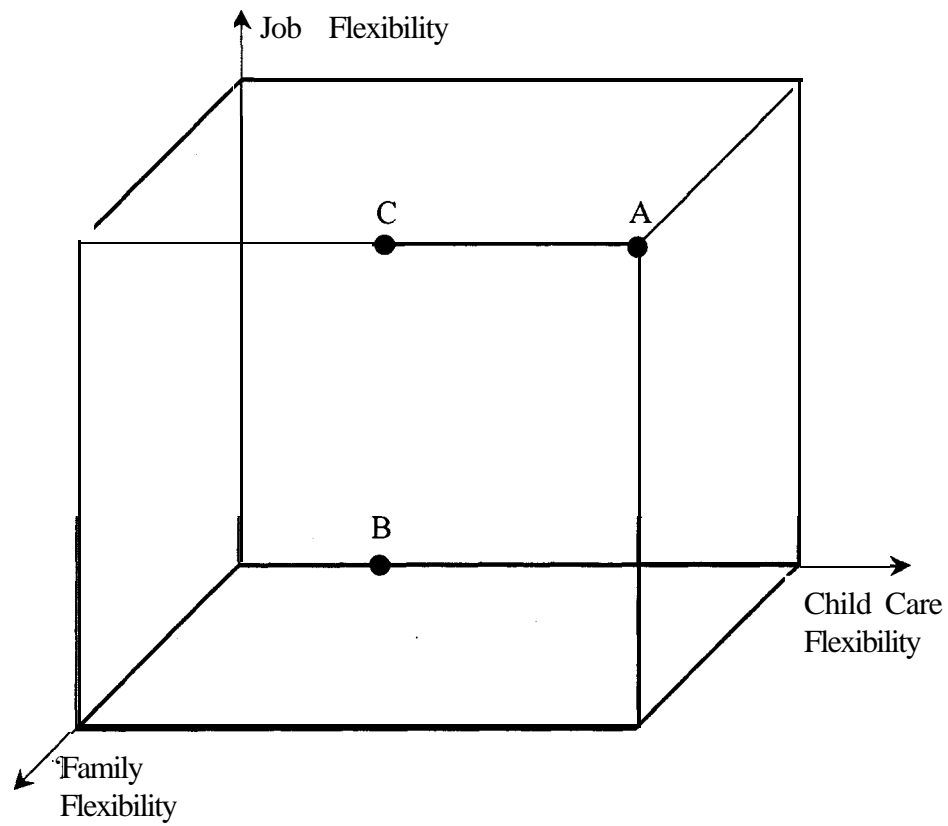
and the parent must work. A parent with a high degree of family flexibility would always have someone to ask for help ~~when~~ a child is sick, when the regular child care provider takes a day off, or when the parent cannot leave work at the regular time and needs someone to pick up the children from child care and care for them until the parent gets home. Child care flexibility is having a child care provider who will care for the children any time the parent has to work. A parent with a high degree of child care flexibility has a child care provider who never misses a day of work, who cares for children when they are sick, ~~and~~ who can stay late or come at any day or time the parent is asked to work.

Figure I.1 displays three axes, one for each source of flexibility (job, child care, and family). The cube represents the set of possible positions with respect to flexibility along the three dimensions. Thus, the highest point on the cube as it intersects each axis represents perfect flexibility in that dimension, but no flexibility in either of the other two dimensions. Points closer to the origin represent lower flexibility along the three dimensions. A parent with flexibility at point A has the highest amount of flexibility in job, child care, and family support. Parents with flexibility at points B and C have less flexibility. At point B, the parent has no job flexibility, no family flexibility, but some child care flexibility. A parent at point C has maximum job and family flexibility, and a moderate amount of child care flexibility.

Emlen also notes a fourth source of flexibility--the parent's initiative in arranging backup child care and developing a flexibility solution that works for her (Oregon Child Care Research Partnership 1997). This initiative, however, is not measured separately in Emlen's studies of flexibility. In fact, Emien feels initiative is reflected in flexibility in the other three areas, since parents who have shown initiative in developing flexible solutions to support their work activities will experience flexibility in one or more areas.

FIGURE I.1

**FLEXIBILITY IN FAMILY SITUATIONS, EMPLOYMENT, AND CHILD CARE
ARRANGEMENTS**



B. ADAPTING THE FRAMEWORK TO THE EMPLOYMENT SITUATIONS AND CHILD CARE NEEDS OF LOW-INCOME PARENTS

Welfare researchers and policymakers have used Emlen's framework to consider the problems that low-income single mothers who are leaving welfare may face. Many of these parents will obtain inflexible jobs; as single parents, they may also have low family flexibility in responding to child care emergencies. Most low-income single parents do not have help with child care emergencies or the financial resources with which to find good, flexible child care solutions. In a sample of an Oregon population of child care assistance recipients, Emlen found that these low-income parents had extremely low family flexibility, average work flexibility, and high caregiver flexibility (Oregon Child Care Research Partnership 1997). However, if low-income single parents cannot find flexible child care arrangements, they may have serious trouble sustaining employment. Although Emlen's research does not address the link between flexibility and continued employment, flexibility in at least one of these dimensions appears to be essential for parents to sustain employment over time (Oregon Child Care Research Partnership 1997).

We suspect that inflexibility in employment, child care, and family situations may be most significant as a barrier to retaining employment over time, not entering employment. Initially, many parents can make child care arrangements that allow them to start work. However, child care arrangements that were hastily made with relatives or friends in order to provide parents with the necessary flexibility to start work may break down because a provider is not available, quits, or because a young child is too ill to attend child care. Employers may ask the parent to adjust her schedule, and the new times may conflict with the current regular providers' schedule. Unless parents have family members or friends who can help provide child care during such crises (a flexible family situation), or can take time off from work to care for the child or to make alternative

arrangements (a flexible employment situation), they will not be able to meet their child-rearing responsibilities and **sustain** their employment.

Many low-income single parents may not consider the need to develop backup child care arrangements to protect them from losing time from work in a child care emergency. Other parents will lack the social resources to make satisfactory backup arrangements. As we consider the degree of flexibility low-income working parents have in each area (family support, child care, and employment), we note that, with some assistance, many low-income single parents could learn to develop their own contingency plans for work and child care emergencies, which would enable them to find a less stressful balance between their work and child-rearing responsibilities.

Even with careful planning, however, more flexible employment and child care options may be needed for this population because many low-income parents cannot address employment and child care emergencies by relying solely on support from family and friends. Research is needed to explore how flexible employment options like job sharing, flexible work places, and flex time options could benefit both employers and parents. Research is also needed on how best to structure policies that would encourage the development of a supply of flexible child care options for low-income families.

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II. FLEXIBILITY AND ITS RELATIONSHIP TO EMPLOYMENT

To sustain employment, parents must find flexibility in family support, their job schedule, or their child care arrangements. Parents who lack flexibility in one area may compensate for that by having higher flexibility in one or more of the other dimensions. Parents who cannot find a flexible solution will probably not remain employed for long. Therefore, to understand the scope and nature of the flexibility problem, it is important to measure the degree of inflexibility along all three dimensions simultaneously.

This chapter discusses how low-income parents can find a flexibility solution, given the constraints of their family situations and the available job and child care options. However, except for Emlen's work in specific population subgroups (Oregon Child Care Research Partnership 1997), the existing literature measures the degree of inflexibility in only one dimension at a time. Therefore, our review of the literature looks at inflexibility along each dimension. Unfortunately, this yields incomplete information about the extent of the inflexibility problem because inflexibility in one dimension can be compensated for by flexibility in one or more of the other dimensions. While we know a lot about inflexibility along each dimension, we know very little about the system as a whole. A final section of this chapter examines what is known about the relationship between inflexibility and employment for low-income parents. We find that no research studies have rigorously examined this relationship.

A. MEASURING THE PROBLEM

This section reviews what we know about inflexible family situations, employment, and child care arrangements among low-income parents and describes the extent to which the lack of flexibility in each of these areas has been measured.

1. Inflexible Family Situations

Some parents entering the workforce will not be able to rely on family members to help with emergency child care arrangements. Families below poverty and those receiving welfare are less able to rely on their child's father to share child care responsibilities than are all families. For example, although fathers provided 18.5 percent of child care to preschoolers from all families in 1994, fathers provided 17.6 percent of child care in families with income below the poverty line and 14.9 percent of child care in families receiving Aid to Families with Dependent Children (AFDC) (see Table 11.1). Families receiving AFDC were more likely than all families to use the child's grandparent as a child care provider. Poor families and families receiving AFDC were more likely than all families to use other relatives to care for children while their mothers worked.

We have found no recent, nationally representative measures of the extent to which single-parent or low-income families can rely on family or friends to care for children during work or child care emergencies. The available research contributes some information, but none of it is very recent or definitive. Findings from two recent studies of interventions for young welfare-dependent mothers indicate that about half the program participants lived with other adults--their own mothers, their husbands or boyfriends, or other adults--who potentially could help with child care (Tables II.2 and II.3), but these data do not indicate whether these adults are available to help with child care in an

TABLE II. 1

PERCENTAGE OF CHILDREN YOUNGER THAN AGE 5 IN
CHILD CARE PROVIDED BY A RELATIVE WHILE
THEIR MOTHERS WORK, FALL 1994

Caregiver	All Families	Families Below Poverty	Families Receiving AFDC
Father	18.5	17.6	14.9
Grandparent	16.3	16.9	21.2
Other Relative	9.0	17.8	14.3
All Relatives Other than Mother	43.8	52.3	50.4

SOURCE: Casper 1997, Table 2.

NOTE: This table is based on data from the Survey of Income and Program Participation (SIPP), fall 1994. The SIPP provides information on the child care arrangements of the youngest three children of employed mothers in fall 1994. Fathers may have any employment status.

TABLE II.2

LIVING ARRANGEMENTS OF YOUNG MOTHERS IN THE TEENAGE
PARENT DEMONSTRATION SIX YEARS AFTER ENROLLMENT
(Percentage)

Living Arrangements	Camden	Newark	Chicago
Living with Another Adult ^a	50.7	50.9	48.4
Husband/partner	16.4	16.9	16.1
Parent/grandparent	22.6	23.2	24.8
Other adult	23.1	25.2	22.0
Living with Children Only	46.6	46.8	49.3
Living Alone	1.0	0.9	0.9

SOURCE: Kisker, Rangarajan, and Boller 1997, p. 114.

NOTE: Most young mothers in this sample enrolled in the Teenage Parent Demonstration program when they were 17 to 19 years old. By the time of the six-year follow-up survey, sample members were, on average, 24 to 25 years old.

^aComponents add up to more than the percentage living with another adult, because some sample members live in households with several adults.

TABLE II.3
LIVING ARRANGEMENTS OF YOUNG MOTHERS ENROLLED
IN THE NEW CHANCE DEMONSTRATION 42 MONTHS
AFTER RANDOM ASSIGNMENT

Living Arrangements	Percent
Living with Parent or Grandparent	21.3
Living with Husband or Partner	30.7
Living with Children Only	35.7
Living in Another Arrangement	12.3

SOURCE: Quint, Bos, and Polit 1997, p. 17.

NOTE: Sample members are young mothers who, as teenagers, had children and dropped out of high school. At 42 months after random assignment, the average age of these mothers was 22 years.

emergency. While it would be helpful to know the extent to which extended family members living together help each other with child care--either as main providers or backup providers--no one has analyzed information on living arrangements and child care arrangements to explore this issue. Differences by ethnicity and income level would likely show interesting patterns of family support across different cultural groups, although this would be limited to regular child care arrangements. Survey information would provide useful information on the use of family members for backup child care and how ethnicity and living arrangements affect the level of support.

Because welfare reform requires that all able-bodied adults work, other adults in the household may not be available to **provide** child care in emergencies. A study of Illinois AFDC recipients and recently employed former recipients found that only 25 percent of the parents interviewed lived in households with other adults and that 67 percent of these parents had no relative or friend who could help with child care (Siegal and Loman 1991).

We found that at least half the parents in households that receive welfare do not have other adults who are available to help with child care when regular arrangements break down or children are sick. Because fewer fathers are available to provide help with child care when parents are not married, single mothers appear to have less flexibility than married parents.

We expect even higher rates of inflexible family situations will be associated with welfare reform because parents with more family support or other forms of flexibility would have made the transition to employment already (Pavetti and Duke 1995). Moreover, work requirements and time limits imposed by welfare reform mean that other adults may also have to work. In a strong economy like the current one, fewer relatives and friends are available to provide child care because they will be working at jobs that would pay higher wages. Although working mothers may be able to make “split shift” arrangements with boyfriends or other relatives who could then provide child care in emergencies, such arrangements may not consistently meet the need for family flexibility and may be stressful to maintain.

2. Inflexible, Low-Wage Employment

Inflexible, low-wage jobs pose challenges for arranging child care. Characteristics of jobs held by low-income parents include nonstandard and changing work schedules, lack of sick or annual leave, and lack of health insurance.

The problem of inflexible jobs may be most acute when low-income parents begin working. Many jobs are most inflexible initially, which may unfortunately coincide with the parent's period of learning how to make reliable child care arrangements and the child's initial year of illness in group care. Most new jobs include a probationary period of six months to a year, when time lost from work for any reason may be more carefully monitored and could lead to dismissal. Even if the probationary period is short, the new employee will not have built up a stock of good will with the employer during the initial months of employment, when child care problems may be more common. This may also lead the parent to experience more negative repercussions in the event of a child care disruption.

a. Nonstandard and Changing Work Schedules

A high proportion of workers in many occupations work nonstandard schedules. In 1997, approximately 15.2 million full-time wage and salary workers, or almost one out of five full-time workers ages 16 and older, worked nonstandard hours (U.S. Bureau of Labor Statistics 1998).^{1,2} Furthermore, in 1997, only 82.9 percent of full-time workers were employed during regular daytime hours in a standard five-day work week (Monday through Friday), a slightly lower proportion than worked nonstandard schedules in 1991. The 1997 study did not look at part-time workers, but in 1991, only 32.7 percent of those working part time worked standard hours and days (Presser 1995).

The proportion of working mothers employed in jobs with nonstandard schedules is also high. Data from the fall 1991 Survey of Income and Program Participation (SIPP) indicate that approximately 37.3 percent of working mothers with children under age 15, or 7.2 million mothers, worked nonstandard shifts. Of these, about 2.5 million worked rotating or irregular schedules (Casper et al. 1994). Similarly, one-third of working-poor mothers responding to *the National Child*

Cure Survey 1990 worked weekends, and just under 10 percent worked during the evening or at night. Almost half of the working-poor respondents worked on rotating or changing schedules (Hofferth 1995). The 1993 and 1994 child care modules of the SIPP also asked working mothers about nonstandard work schedules, but the data have not yet been analyzed by the Census Bureau.

Mothers who leave welfare for work are even more likely to have jobs with nonstandard schedules. Presser and Cox (1997) analyzed work schedule data from the May 1991 CPS for a subsample of civilian women ages 18 to 34 with a high school education or less and a child younger than age 14. Because most welfare recipients have a high school degree or less and are young, we think that the work schedules of mothers leaving welfare for work are likely to be similar to those of this subsample (Burtless 1997).³ Presser and Cox's results indicate that, in 1991, only a little more than half (56.7 percent) of low-educated, employed mothers worked a standard daytime and weekday schedule. Furthermore, almost 16 percent of these mothers worked nonstandard hours and weekends.

The high rate of nonstandard work schedules among this population can be attributed primarily to the characteristics of the industry in which many low-wage, low-skill jobs are found. Although workers in almost all occupations may work nonstandard hours and days, service industry workers are more likely than others to work nonstandard schedules (Presser 1995; and Bookman and Furia 1995). The low-educated mothers in the subsample analyzed by Presser and Cox worked primarily in the service industry in relatively few occupations (Presser and Cox 1997). Almost half (45.9 percent) worked in just 15 occupations, with one-quarter working as secretaries, cashiers, nursing aides, waitresses, or child care providers. High proportions of mothers in these occupations worked during nonstandard hours or days. For example, about two-fifths of cashiers and nursing aides and

almost half of the waitresses in the subsample worked nonstandard schedules (Presser and Cox 1997).

Service sector jobs in which a high percentage of those employed work nonstandard hours and days are among the occupations expected to grow the most in coming years (Bookman and Furia 1995). Seven of the 10 occupations expected to grow the fastest over the next decade predominantly require nonstandard work schedules; of those seven occupations, six employ predominantly women (see Table 11.4). Thus, the number of low-income mothers who work nonstandard schedules is likely to increase in the future. Almost half of all women with a high school education or less, and children under age 14 say that they work these schedules because the job requires it or because they could not get another job (see Table 11.5).

Some mothers prefer to work nonstandard schedules. About one-quarter of mothers with a high school education or less say they prefer to work nonstandard hours because they can obtain better child care arrangements that way, presumably because a spouse, grandmother, or other family member is available to care for their children during nonstandard hours. The remaining mothers working nonstandard hours cited the availability of better care arrangements for other family members, time available for school, better pay, and other reasons. A preference for nonstandard hours because better child care is available is somewhat more common for married women and mothers of children younger than age 5 with a high school education or less (Presser and Cox 1997).

A study of shift work by all mothers found a higher incidence of involuntary shift work (Casper et al. 1994). About 71 percent of working mothers with children younger than age 15 said that their work shift was determined by job requirements rather than by personal choice. Only approximately

TABLE II.4
OCCUPATIONS WITH THE LARGEST PROJECTED U.S. JOB GROWTH

Job Growth Rank	Occupation	Projected Job Growth" (in Thousands)	Percentage Working Nonstandard Hours and Days ^b (May 1991)	Percent Female ^b (May 1991)
1	Salespersons	786	75.2	55.5
2	Registered nurses	766	67.4	96.7
3	Cashiers	670	80.2	80.2
4	General office clerks	654	17.5	80.5
5	Truck drivers	648	42.8	3.6
6	Waiters and waitresses	638	90.0	84.1
7	Nursing aides, orderlies, and attendants	595	75.9	89.0
8	Janitors and cleaners (including maids and housekeeping cleaners)	548	56.2	41.2
9	Food counter, fountain, and related workers;	525	86.5	71.7
10	Computer scientists and systems analysts	501	14.4	33.6

SOURCE: Presser 1995, p. 594.

^aProjected job growth based on 1992 **actuals** and moderate estimates for 2005 derived by the U.S. Bureau of Labor Statistics.

^bThese data are based on the May 1991 CPS. The May 1991 CPS included a supplement about work schedules of first and second jobs.

TABLE II.5

LOW-EDUCATED MOTHERS' MAIN REASONS
FOR WORKING NONSTANDARD SCHEDULES

Main Reason for Working Nonstandard Shift	Women Ages 18 to 34 with a High School Education or Less and Children Under Age 14				
	Total	Youngest Child Under Age 5	Youngest Child Age 5 to 13	Married	Single
Better Child Care Arrangements	26.8	30.7	18.3	31.0	19.1
Could Not Get Any Other Job	5.9	7.1	3.3	4.7	8.0
Requirements of the Job	39.7	35.2	49.5	37.6	43.6
Other	27.6	27.0	28.9	26.7	29.3

SOURCE: Presser and Cox 1997, p. 29.

NOTE: These data are based on the May 1991 CPS. The May 1991 CPS included a supplement about work schedules of first and second jobs. To conduct their analyses, Presser and Cox used a subsample of May 1991 CPS respondents who were civilian women ages 18 to 34, had a high school education or less, had at least one child younger than age 14, had worked in at least one job for pay in the previous week, and whose primary job was not in an agricultural occupation.

14 percent listed obtaining better child care arrangements as their reason for choosing a work shift. Among mothers of preschoolers, 18 percent cited better child care arrangements as their reason for choosing a shift. Of the 7.2 million mothers working nonstandard hours, 1.4 million, or 19.4 percent, listed child care arrangements as their reason for choosing a nonstandard work shift.

The most recent empirical study of the incidence of nonstandard work schedules among low-income parents indicates that about half the parents who leave welfare to work are likely to work nonstandard schedules, and this proportion is likely to grow in the future. Moreover, about half of low-income parents who work nonstandard schedules do so because they have no alternative employment options rather than because they prefer these schedules. Although the data supporting these conclusions is somewhat old, and the studies cited need to be replicated with more current data, trends indicate that the magnitude of the problem is increasing rather than declining.

b. Lack of Sick or Annual Leave

Employed parents need leave time from work to care for sick children. Of all working mothers who responded to the National Child Care Survey 1990, 35 percent reported that one of their children had been sick on a work day during the previous month, and more than half of these women missed work to care for that child (Willer et al. 1991). Leave time to care for sick children is especially important for parents of young children. A recent study found that children in child care centers and family child care homes in San Diego and Seattle were sick for an average of four days per year, primarily with respiratory illnesses. Infants (under 1 year), however, were absent because of illness an average of eight days per year (Cordell et al. 1997). Many mothers leaving welfare for work are likely to have young children who will need care during frequent illnesses. In 1995, almost

half of welfare recipients' children were younger than age 6, and about one-quarter were younger than age 3 (U.S. House of Representatives 1998).

Poor children and children in welfare families are more likely to have more serious health problems. Children from low-income families are more likely than those from higher-income families to have been born prematurely and at low birthweight, which can put them at risk for a variety of physical health problems (Institute of Medicine 1985). These children are also more likely to suffer from intrauterine exposure to drugs or cigarettes, which can lead to a range of health problems (Klerman 1991). They are more likely to be reported as having fair or poor health and to have an activity limitation because of health (Zill et al. 1991). They are more likely to suffer from asthma (Wissow et al. 1988). These health problems may lead to even more absences from child care, causing parents to miss work.

Many women who leave welfare for work find employment in low-wage service occupations that offer no fringe benefits such as sick or annual leave (Hershey and Pavetti 1997). For example, focus group participants from a job-retention program for former welfare recipients said that they had no paid sick leave and could not adjust their schedules to care for sick children (Rangarajan 1996). Many of these mothers did not have other family members who could provide backup care for a sick child, and some said they had been fired or given a reduced number of work hours because of absences to care for sick children.

More flexible employment policies may be the best way to address the problem of caring for sick children. Research is needed on the costs and benefits to employers of providing paid or unpaid leave or flexible work schedules to allow employees to care for their sick children.

c. **Lack of Health Insurance**

Because young ~~children~~ frequently have illnesses, and because this problem is exacerbated by group child care, family health insurance coverage is essential for mothers who leave welfare for work. Research suggests, however, that fewer than half of those who leave welfare have health insurance after three years (Moffitt and Slade 1997). For example, a study of AFDC recipients who received employment and training services through New Jersey's Realizing Economic Achievement Program (REACH) found that 47 percent of those who left welfare for work had health insurance three years later. A study of California's Greater Avenues for Independence (GAIN) program found that 25 percent of those who left welfare for work had private health insurance two to three years later. In addition, an analysis of data from the National Longitudinal Survey of Youth (NLSY) on mothers who left AFDC showed that 23 percent of mothers and 21 percent of children had health insurance through an employer one year after leaving welfare. After three years, these figures rose to 38 percent of mothers and 47 percent of children. However, half of those covered by **employer-**provided insurance after three years had coverage through a spouse's health plan, and the rate of coverage through the women's own jobs remained low.

The rate of employer-paid health insurance coverage for women leaving welfare for work under Temporary Assistance for Needy Families (TANF) will probably be lower than the rates cited in these studies. Women who left welfare for work under the former AFDC program tended to be those with higher levels of education, more job experience, and fewer children. These women were more likely to find higher-wage jobs with health insurance benefits (Moffitt and Slade 1997). The time limits imposed under TANF will require a much larger group of women, including those with low levels of education and job experience, to leave welfare for work. These less skilled women are not as likely to find jobs that provide health insurance.

However, the Balanced Budget Act of 1997 created the State Children's Health Insurance Program (S-CHIP) to enable states to expand Medicaid coverage or other health insurance programs for children from families with incomes below 200 percent of the poverty level (Weil 1997). Under this program, states have the option of expanding Medicaid coverage for children by raising the maximum allowable family income for this program. States can also expand existing state health insurance programs for children by increasing the number of slots available or increasing the family income limits for these programs. Therefore, even though children of parents leaving welfare for work may not have private health insurance coverage through their parents' employers, many may have access to coverage through state S-CHIP programs.

3. The Limited Supply of Flexible Child Care

The existing supply of child care poses challenges for parents with inflexible jobs and nonstandard work schedules, and research has explored the incidence of these problems. Issues include the availability of child care options during nonstandard schedules, substitute providers when regular arrangements are not available, child care for children who are ill, and child care options for school-age children during school holidays and summer vacations. The use of family or friends for child care can address many of these issues, but it raises others.

a. Limited Supply of Child Care During Nonstandard Schedules

Based on empirical research reviewed in Section II.A.2, we estimate that about half the parents leaving welfare for work are likely to work during nonstandard schedules and that this proportion may increase over time. About one-quarter work nonstandard hours because they can arrange better child care, while the other one-quarter work nonstandard hours because the job requires that they do so. These parents do not necessarily have access to better child care during these work hours.

Most observers have noted a mismatch between the job schedules of many low-wage workers and the schedules **maintained** by centers and regulated family child care providers. A comparison of the proportion of parents' working nonstandard schedules to the supply of these regulated child care arrangements indicates that supply appears to fall far short of the projected need for child care arrangements during nonstandard hours (GAO 1997; Collins and Li 1997).

Most of the data about the supply of child care during nonstandard hours (including weekends) have been collected about regulated child care providers by accessing the databases of resource and referral agencies. These sources provide good coverage of licensed and regulated providers, but only limited coverage of child care arrangements outside the state regulatory system. For example, the U.S. General Accounting Office (1997) recently estimated the supply of child care in four communities using information from resource and referral databases and found that care during nonstandard hours and days was available from 12 to 35 percent of providers, depending on the community. Most providers who offered care during nonstandard hours and days were family child care homes rather than centers.

Similarly, Collins and Li (1997) estimated the supply of regulated child care in Maryland and Illinois during April 1996 by extracting data from statewide child care resource and referral databases. Their study included data on all licensed family child care homes, licensed child care centers, and "license-exempt" centers in Illinois. The results indicate an extremely limited supply of regulated child care arrangements during nonstandard hours, especially in poor communities within these states.

Collins and Li (1997) estimate that there are 2.11 regulated child care slots per 1,000 children under age 13 in the state of Maryland. Of those slots, .99 are open for extended hours (from at least 7:30 A.M. to 6:00 P.M.). However, in zip codes with the highest proportion of families living below

or near poverty, only 41 extended-hour slots are available per 1,000 children. Only 0.1 slot per 1,000 children provides **overnight** care, and only 1.2 regulated child care programs per 1,000 children provide weekend care.

In Illinois, Collins and Li (1997) found approximately 148 regulated child care slots per 1,000 children under age 13. Of those, 61 provide care during extended hours, and most of these slots are in high-income communities. In zip codes with low proportions of poor families, 130 extended-hour slots are available per 1,000 children. In contrast, only 55 extended-hour slots per 1,000 children are available in zip codes with the highest proportion of poor families. Availability of overnight and weekend care is also severely limited. In Illinois, only 0.5 slot per 1,000 children is available for overnight care, and 0.3 program per 1,000 children provides weekend care.

These studies indicate a severely limited supply of regulated child care arrangements during nonstandard hours and days, especially compared to the expected proportion of low-income parents who will need to work during these hours. However, lack of information about parents' preferences for child care arrangements during nonstandard work schedules makes it difficult to determine whether this supply of regulated child care arrangements is sufficient to meet the demand among low-income parents. During evening, night, and early morning hours, many parents may prefer to place their children in the care of relatives or friends in a homelike setting, rather than in child care centers or even in the homes of unrelated family child care providers.

However, we expect that about one-quarter of low-income parents have inflexible job situations and may not have trusted relatives or friends who can help with child care. For these parents, child care centers may be the preferred option even during evening, night, and early morning hours because low-income parents may find regulated care more trustworthy than unregulated care (Porter

1991). We do not know how much the scarcity of center-based care in low-income neighborhoods contributes to parents' choice of relatives and neighbors for child care.

We found two studies that provide data on the supply of unregulated child care arrangements during nonstandard hours, but both are somewhat dated. A *Profile of Child Care Settings*, a national survey of child care providers conducted in 1990, collected data on the supply of child care during nonstandard hours from both regulated and unregulated providers (Willer et al. 1991). According to these data, 10 percent of child care centers provided care during weekend hours and 3 percent provided care during evening hours. Six percent of family child care homes provided care during weekend hours. A higher percentage of family child care homes--13 percent of regulated homes and 20 percent of unregulated homes--provided care during evening hours (Willer et al. 1991).

Siegal and Loman (1991) collected data on the supply of center-based and home-based child care arrangements available during nonstandard hours and available to parents leaving welfare for work in Illinois in a study of the child care needs and experiences of AFDC recipients. This study included a survey of single parents with children under age 14 who received AFDC or had recently left AFDC for employment and a survey of child care providers across the state. Half the parents who were employed had jobs that included some evening or weekend hours. About 64 percent of all parents surveyed reported difficulty arranging child care during weekend and evening hours. Only eight percent of child care centers surveyed provided care after 6 P.M., and only three percent provided care during weekend hours. A much higher percentage of family child care providers (35 percent) provided care during evening hours and on weekends. Relatives and friends supplied the most care during nonstandard hours, with 6 out of 10 of these providers caring for children after 6 P.M. and on weekends.

In addition to working nonstandard hours and days, many parents who leave welfare for employment will find **low-wage** jobs that require frequent changes to their work schedules. A changing schedule represents a serious obstacle to arranging child care because most child care providers require regular attendance (Hofferth 1995). Siegal and Loman (1991) found that many employed parents in their sample worked part time, intermittently, or on changing schedules. However, most of the child care centers and licensed family child care providers they surveyed said that they would not accept children on an intermittent or changing basis. Most parents with these types of schedules used relatives, friends, and multiple providers. We do not know how many parents in the study preferred using relatives and friends and how many used these providers because they did not have other alternatives.

b. Lack of Substitute Providers When Regular Arrangements Are Not Available

Although relatives and friends may be willing to provide child care during hours that match parents' schedules, these arrangements are less dependable because providers quit, become ill, or are unable to provide care for other reasons. When this happens, many parents do not have leave time from work or the financial ability to take unpaid time from work to arrange for a substitute provider. Siegal and Loman (1991) found that 70 percent of the parents in their study reported problems arranging care when their regular providers could not work. All these parents used relatives or friends as their regular child care arrangement. Furthermore, parents reported that frequent breakdowns in child care arrangements with friends and neighbors drove them to use a series of arrangements rather than one regular provider.

Focus group participants from a job-retention program for former welfare recipients said that child care arrangements with family and friends often broke down because the provider found a job,

moved, or decided that providing child care was too difficult (Rangarajan 1996), although the study did not indicate how **successful** these parents were at finding backup care arrangements. Gilbert et al. (1992) reported similar findings in a study of GAIN participants. During the first three months after enrollment in GAIN, 36 percent of mothers reported needing alternative arrangements because their regular child care provider could not work or because children needed care during a school holiday. Even when relatives or friends provide a stable source of child care, parents will need backup arrangements for provider illness and other emergencies, but they may not have other resources.

Although the Siegel and Loman (1991) and Gilbert et al. (1992) studies provide important information about the problems parents face in arranging substitute child care, both are dated and are each limited to employment and training participants from a single state prior to welfare reform. The extent of problems with making backup child care arrangements needs to be measured among a broader and more current population of low-income parents.

c. **Lack of Care for Ill Children**

...
Taking time off work to care for sick children remains a serious problem for parents, but child care options for even mildly ill children are extremely limited. Children who are too ill to attend their regular child care arrangements need to be cared for apart from other children, a fact that presents serious cost and logistical implications for child care providers. Poor children may have a high incidence of health problems and illness, which make this an ongoing problem for parents.

In this section, we review what is known about the supply of child care arrangements for children who are sick, although we recognize that out-of-home care for children who are ill is difficult to structure and is not necessarily the best policy option for addressing this problem (see Chapter III).

Data from A Profile of Child Care Settings indicate that family child care homes, especially unregulated homes, are **much** more likely than centers to care for children who are sick (see Table 11.6). Results of a survey of AFDC mothers conducted by Sonenstein and Wolf (1991) indicate that centers are the least likely child care setting to accept sick children. Mothers in this study who used centers reported that they missed an average of six days of work or school in the previous eight months because of a child's illness, compared to one day on average for mothers who used other types of care. Cordell et al. (1997) also found a higher incidence of reported illness among children in home-based care compared to center-based care, but children in centers had a higher rate of absence.

TABLE II.6
AVAILABILITY OF CHILD CARE FOR SICK CHILDREN

Type of Child Care Provider	Percentage of Providers Willing to Accept Children with Various Conditions		
	Severe Cough	Feverish Appearance	Rash
Center	10	6	3
Regulated Family Child Care	25	20	10
Unregulated Family Child Care	50	50	36

SOURCE: Willer et al. 1991, pp. 28-29.

NOTE: These data are taken from the National Child Care Survey 1990 and A Profile of Child Care Settings 1990.

Siegal and Loman (1991) found similar results. Approximately two-thirds of parents in their study reported problems arranging child care for sick children. Of the child care centers surveyed, only one in eight said they would provide care to children with an illness such as a cold, fever, or flu. In contrast, 59 percent of regulated family child care providers said that they would care for children with such illnesses, and an even higher proportion of unregulated providers said that they cared for sick children.

In a survey of single mothers participating in California's GAIN program, Gilbert et al. (1992) also identified lack of care for sick children as an obstacle to working or attending school. During their first three months of participation in GAIN, 59 percent of mothers had to make alternate arrangements for sick children, and 48 percent missed work, school, or training to care for a sick child.

The survey results from these studies indicate that about 90 percent of centers, 50 to 75 percent of regulated family child care providers, and about 50 percent of unregulated child care providers will not accept children who are ill. Most low-income parents have difficulty arranging alternative care for their sick children and frequently miss work to care for them. Broader and more current measurement of the supply of child care for sick children and the extent of work-related problems associated with the lack of such arrangements is necessary to solve this problem.

d. Lack of Child Care for Children With Special Needs

Children from low-income families are more likely than other children to have health problems and behavioral problems that can make it difficult to place them in child care arrangements (Zill et al. 1991; Klerman 1991). Providers may be unwilling to accept a child with chronic or potentially life-threatening health problems because they may feel unprepared to handle a medical emergency.

Parents may have a greater preference for relatives or trusted friends to care for the child who has a health condition to **ensure** appropriate surveillance of the child's condition and appropriate treatment in the event of a problem. However, high-quality child care with trained medical staff available could be even more effective in alleviating concerns about the medically frail child while the parent works. In the Infant Health and Development Program, low-educated mothers of premature, low-birthweight infants returned to work two months earlier and worked more continuously when they had access to high-quality, center-based care for their one-year-old children (Brocks-Gunn et al. 1994). The control group had access to community-based child care, but not the high-quality centers used by children in the intervention group.

Children from low-income families are more likely than those from higher-income families to have behavioral problems or learning disabilities that make it more difficult for children and adults to interact with them (Zill et al. 1991). These characteristics may make it more difficult to place these children in a care arrangement, or to maintain that arrangement over time.

e. **Lack of Child Care for School-Age Children During Holidays and Summer Vacations**

Parents of school-age children need affordable child care arrangements for school holidays and summer vacations. In their study of implementation issues in states' welfare reform efforts, Pavetti and Duke (1995) found that program participants experienced difficulties in arranging child care for their school-age children during school holidays and breaks. Some parents may be able to make child care arrangements with relatives, friends, or neighbors. Other parents have inflexible family situations and will not be able to rely on relatives or friends to help with child care during school holidays. These parents will need to search for child care centers or home-based providers who could care for their children on those days.

In their study of welfare recipients and former recipients who had recently left welfare for employment in Illinois, Sisal and Loman (1991) found that 74 percent of centers and 82 percent of family child care homes were open on school holidays. However, 64 percent of parents in their study reported problems arranging care for school-aged children during holidays and breaks. Parents may have had difficulties arranging care despite the availability of regulated arrangements because regulated providers, although open, had a limited number of available slots. In addition, parents who need child care only when school is out are not likely to have ongoing relationships with child care providers and may not be aware of their options for child care on school holidays.

4. The Adequacy of Parents' Social Networks as a Solution to the Child Care and Job Flexibility Problems

Many low-income parents use relatives, friends, and neighbors as caregivers. These choices partly reflect parents' preferences and degree of trust. Parents prefer to have children cared for within the family itself. If the parent must go outside the immediate family for child care, the second choice is a close relative, such as a grandmother or aunt. The next level includes the parent's very close social network--a friend who is "like a sister or a mother." A parent who must cast a wider net then turns to people in the neighborhood.

After exhausting all of these familiar sources, a parent might consider market child care and seek out names from a bulletin board or a referral list, or look to the recommendations of friends.

However, this may be less preferable--the parent would feel that she knows a great deal more about the quality of child care if it were provided by a close relative or friend than if it were provided by someone on a licensing or referral list. Child care provided by a close relative or friend may also be more flexible because the caregiver is more involved with the family and may be willing to

provide extra support when needed. Parents may also choose relatives to care for children in order to keep money in the famil..

Another factor in child care choice may be ethnic background or shared language and special family situations (for example, the degree of closeness between the child's mother and grandmother may influence whether the child's grandmother is asked to provide child care).

Nevertheless, the observed patterns of child care demand--lowGncomeparents choose relatives and unregulated providers more frequently than licensed providers--are contingent on the current supply of child care in low-income neighborhoods, its quality, and its cost. In dangerous neighborhoods where the quality of centers and registered family child care homes is poor, it is not surprising that parents would choose familiar people to care for their children. Many parents would agree that having close family members care for children is preferable to using someone outside the immediate family. However, not everyone would agree that relatives, friends, and people in the neighborhood are better caregivers than someone who provides child care as a profession and runs a high-quality program that is responsive to parents' concerns that the child be in a cultural and language environment similar to the one at home. If the quality and cost of market options were improved dramatically, some parents might not choose to use relatives and unlicensed neighbors as often.

The difficulty of finding centers that operate during nonstandard hours, as well as a preference for home-based care arrangements during nonstandard hours, leads more parents to choose relatives or familiar adults to care for children during those times. A substantial proportion of parents choose to work nonstandard hours so they can use family members or relatives who could not care for the children during normal work hours. In 1994, relatives provided care for 55 percent of all preschool-age children whose mothers work a non-day shift, compared to only 35 percent of children whose

mothers work during the day (see Table 11.7). Furthermore, 71.4 percent of children whose mothers worked non-day shifts **received** care in their own home or their provider's home, compared to 59.1 percent of children whose mothers worked during the day.

Even when a parent prefers having a relative or friend care for the child, problems may arise. A number of studies indicate that child care arrangements with friends, neighbors, or relatives tend to be more unreliable than regulated arrangements, providing less support for the mother's

TABLE II.7
PERCENTAGE OF CHILDREN YOUNGER THAN AGE 5 WHO ARE
CARED FOR BY RELATIVES BY MOTHER'S WORK SCHEDULE

Child Care Provider	Mother's Work Shift	
	Non-day Shift	Day Shift
Relative	55.4	35.4
Father	28.3	11.6
Grandparent	17.1	15.6
Other relative	10.0	8.2

SOURCE: Casper 1997, Table 2.

NOTE: This table is based on data from the Survey of Income and Program Participation (SIPP), fall 1994. The SIPP provides information on the child care arrangements of the youngest three children of employed mothers in fall 1994.

employment activities (Gilbert et al. 1992; Hofferth 1995; Presser and Cox 1997; Rangarajan 1996; and Siegal and Loman 1991). Because child care provided by friends, relatives, and neighbors often breaks down, parents who rely on these arrangements tend to change child care providers frequently, which can be stressful for both the child and the mother. Siegal and Loman (1991) found that because these arrangements were often temporary and unreliable, many parents used a sequence of temporary providers rather than one regular arrangement. In fact, during follow-up interviews, most parents using friends or relatives to care for the child said they had changed providers in the previous 90 days. Most of these changes were caused by changes in the providers' ability to provide care, such as changes in employment status, work hours, school hours, or residence. Other parents reported that they changed child care arrangements because providers were unreliable.

In addition to changing providers frequently, many low-income parents use more than one relative or friend and "patch" together child care to accommodate their work and school schedules and to arrange substitute providers when regular arrangements break down. Of all low-income respondents to the National Child Care Survey 1990, 24 percent of children under age 5 had been placed in more than one regular child care arrangement (Brayfield et al. 1991). The use of multiple arrangements was highest for low-income families headed by an employed, single mother. In those families, 45 percent of children under age 5 were placed in more than one regular child care arrangement. Siegal and Loman (1991) reported that one of every five children in their study population was cared for by two or more providers each week. Parents who worked nonstandard schedules, single parents who worked part-time schedules, and single parents who worked and attended school were more likely than others to use multiple providers. Similarly, Gilbert et al. (1992) reported that nonstandard and changing work schedules led to reliance on multiple providers among parents. However, when parents turn to multiple friends and relatives to provide child care

that meets their scheduling needs, they have to worry about potential breakdowns in several child care arrangements, rather than just one.

To address these issues, the problems and benefits associated with the use of informal child care arrangements must be measured among a broad-based sample of low-income parents. The National Study of Child Care for Low-Income Families⁴ could provide measures of the frequency of disruptions in these care arrangements and the reasons, as well as the frequency with which parents need to coordinate several of these arrangements. What kinds of information would help parents set up more reliable child care arrangements with family and friends, and what supports might increase the reliability of these arrangements?

B. LACK OF FLEXIBILITY AND EMPLOYMENT RETENTION

This section discusses the impact of inflexible jobs and child care on employment retention. Very little research has focused on this relationship, so we also consider research questions that need to be answered to understand the relationship between flexibility and employment retention.

1. Inflexible Jobs and Child Care Arrangements: Impact on Employment Retention

Information from some state-specific surveys and focus groups of working parents who received AFDC or recently left welfare indicates that child care difficulties associated with inflexible jobs and nonstandard work schedules causes work-related problems for parents. These parents have experienced reduced hours, change in status from full- to part-time work, and even job loss because of child care problems (Rangarajan 1996; Siegal and Loman 1991). Focus group participants in a job-retention program for former welfare recipients said that difficulties matching child care and work schedules were a major source of work-related problems (Rangarajan 1996). Those who were able to arrange child care often had so little flexibility that minor scheduling problems caused them

to be late for work and affected their employment. Many of these mothers did not have reliable backup arrangements ~~when~~^{and} their children were sick or regular providers could not work, so absences from work also resulted in employment problems.

Siegal and Loman (1991) found that parents faced similar difficulties with employment. The child care arrangements available to parents who worked nonstandard schedules were so unreliable that sustaining full-time employment was almost impossible. The study found that the type of employment parents could obtain limited their child care options, and the unreliable child care that parents found, in turn, limited their ability to find better employment. In fact, 20 percent of parents in the study population had returned to welfare in the past year because of child care problems.

2. Understanding the Link Between Flexibility and Employment Retention

Identifying the best option for increasing employment retention for parents leaving welfare for work requires more research about the relationship between flexibility and employment retention. Ideally, this research would combine Emlen's insight that the three dimensions of flexibility must be measured simultaneously with some of the measures developed in the separate literatures on each type of inflexibility (for example, job schedules, paid leave time). The research would also relate flexibility to employment outcomes. In addition, research should attempt to learn more about the degree of flexibility necessary in family situations, employment, and child care situations to have an impact on employment retention. Little is known about the types of inflexibility faced by low-income families who cannot balance employment and child-rearing because those who do not remain employed are not likely to appear in cross-sectional studies of workers who are asked about the degree of work, family, and child care flexibility they have. Once we understand better what types

or combinations of inflexibility pose the greatest stumbling block to employment success, we can focus on solutions to those situations.

Research about the links between flexibility and employment retention should examine the following questions:

- How can we best measure the degree of flexibility in each of the three dimensions identified by Emlen: family situations, employment, and child care arrangements?
- Does flexibility in each of these domains have the same impact on employment retention, or is flexibility in one of them preferable to the other two? For example, is flexibility in child care arrangements more important for maintaining employment than flexibility at work?
- What is the cost to employers of increasing job flexibility, and how much impact would this have on employment retention? Employer costs might include more absenteeism, disruptions to productivity caused by absenteeism, and more management time required to monitor employees' work hours and productivity. How could flexible policies benefit employers? What incentives might encourage employers to adopt flexible policies?
- What would be required to help low-income parents develop more flexible family support arrangements, and how much impact would this have on employment retention?
- What is the cost to child care providers of increasing child care flexibility, and how much impact would this have on employment retention? Provider costs might include greater stress from working longer hours on short notice; for home-based providers, more stress from balancing child care business needs with the needs of their own family members; and for center-based providers, paying higher salaries for qualified staff to work during nonstandard hours. How could greater flexibility benefit child care providers?
- In what other ways does a lack of flexibility in family situations, employment, and child care affect employment? To what extent do flexibility problems result in negative employment outcomes other than job loss (such as reduced number of work hours, reduction from full-time to part-time status, or failure to advance in a job)?

In the next chapter, we discuss options and models of good practices for increasing flexibility for low-income working **parents**.

¹These estimates were taken from a special supplement to the May 1997 Current Population Survey (CPS), which included questions about work schedules. A previous survey was conducted in May 1991. Unfortunately, most of the analyses of the work schedules of part-time workers and low-skilled women have not yet been updated using the 1997 data.

²**Nonstandard** work hours are work shifts that include early morning, evening, night, or changing hours.

³National data on AFDC recipients in 1995 indicate that about 46 percent of those with a high school education or less fell into the subgroup with less than a high school degree (U.S. House of Representatives 1998). These AFDC recipients face particular labor market disadvantages because they lack a basic educational credential. While it would be helpful to also have information on work schedules for this more educationally disadvantaged group, the authors did not present information separately for this subgroup.

⁴ The National Study of Child Care for Low-Income Families is a five-year project that will examine the supply and demand for child care and the effects of child care and welfare policy on child care markets in 25 low-income communities within 17 states. In 5 of the study communities, researchers will also conduct a parent survey on employment and child care choices and measure children's experiences in child care. The study is being sponsored by the Administration for Children and Families, DHHS, and is being conducted by Abt Associates, Inc., and the National Center for Children in Poverty, Columbia University.

III. POLICY OPTIONS

Empirical research suggests that, under welfare reform's more stringent work requirements, many parents may be obliged to accept inflexible jobs. Many of these parents may not be able to arrange safe, flexible, reliable child care. Although the available data do not document clearly the extent of this problem among low-income parents, evidence suggests that some welfare recipients fall into this category. To support the work efforts of this group, parents need help to make arrangements with family and friends who can respond to work and child care emergencies. Incentives or requirements for employers to offer greater flexibility in jobs or the use of **community-**based talent and organizations to develop systems of flexible child care options would also help meet the needs of low-income families in the community.

In this chapter, we review policy options and promising models for increasing flexibility in family support, employment, and child care arrangements. The literature identifies ways in which employers and community agencies have developed employment policies that provide flexibility to meet child care problems and child care options to accommodate difficult or inflexible job requirements (Bookman and Furia 1995). These employment and child care solutions tend to be the exception rather than the rule, however. The literature does not go beyond a description of the models to discuss the circumstances under which these models occur, why they are not more common, and how they can be adapted for low-wage workers.

We have considered the economic rationale underlying the existence of these promising models and the way the models could be extended to more adequately meet the need for flexible jobs and child care arrangements for low-wage workers. Because many of the models have been developed by large employers, their approaches must be adapted for parents who work for small businesses.

In some cases, the models have been developed for middle-class and higher-wage workers, so we discuss the economic **rationale** for and/or barriers to extending these models to a lower-wage population. In many **cases**, the economic constraints on extending the models to a low-wage and small-business employee population are so great that involvement of community-based organizations and the public sector may be needed to bring together parties with a common interest, generate ideas, implement a solution, or help subsidize a program.

A. INCREASING FAMILY SUPPORT

Although we do not expect the public sector or private employers to influence family structures, they could help provide working parents information about how to manage their work and child-rearing responsibilities. This information could focus on the need to plan for contingencies like sick child care or a provider's absence and on creative strategies for meeting these contingencies. **Emlen** identifies the parent's initiative in developing flexible solutions for the family as a fourth source of flexibility (Oregon Child Care Partnership 1997). One answer to the problem of inflexible jobs and child care is counseling and assistance for parents who are just beginning to combine work with child-rearing or who have not previously been successful in finding flexible solutions.

Several opportunities already exist for providing information and assistance to low-wage employees with children. Employers could provide this information during job orientation, and they may benefit from doing so to prevent lost time from work or employee turnover later on. Agencies that help welfare recipients prepare for jobs through orientation to the world of work or job search assistance seminars could include information about finding child care arrangements that support inflexible work schedules and creative planning for child care emergencies. In addition, **community-**

based child care resource and referral agencies that provide other child care counseling to welfare clients could include this information.

We have not found an organization that has developed information and counseling to encourage parents to think about jobs, child care, and family support together and to understand that one or more of these need to provide some flexibility. Some organizations may address these issues in part by emphasizing the need for reliable child care arrangements. We believe, however, that a fuller treatment of these issues and individual counseling for parents who are finding it difficult to develop solutions would help low-income parents succeed as parents and employees.

Without the ability to evaluate the effectiveness of this counseling, it is difficult to determine which organizations might be most successful in offering it, how intensive the counseling needs to be, when it should occur to have the greatest impact, and how much impact the counseling might have on absenteeism or job retention. We feel this is a relatively low-cost and potentially beneficial policy option that could be implemented either alone or in combination with other options.

B. INCREASING FLEXIBILITY IN LOW-WAGE JOBS

Increasing flexibility in employment is one strategy for helping low-income parents successfully manage work and child-rearing responsibilities. Some jobs provide a great deal of flexibility, permitting workers to choose their work schedules or take sick or annual leave to provide backup care for their own children when providers are unavailable or children are sick. Employers are aware of how flexible jobs can help workers balance jobs and family responsibilities and of what types of policies can be most useful to employees.

However, employers who pay very low wages and provide no benefits, including sick or annual leave, may view these policies as too costly. Jobs that are part of a production process may require

punctuality and regular attendance because the work cannot be done as well when someone is absent.

Employers have no **incentive** to tolerate absences, because they can easily replace workers who cause disruptions. Similarly, rotating schedules and nonstandard hours may be necessary because of production schedules or the nature of the work, making it impossible to accommodate those who have difficulty finding child care during these work schedules. These problems are exacerbated in job markets with a few major employers of low-wage workers, because employers do not have an incentive to increase flexibility even if they could be more accommodating.

We have found no studies that look systematically at the conditions under which low-wage employees have benefits such as sick or annual leave or evaluate what it would take for employees to acquire these benefits in a firm that provides benefits to one group of employees but not to another. For example, how common is job tenure as a condition of receiving **benefits**? What other criteria are used to qualify employees for benefits? Is it possible for low-wage employees to qualify for benefits like sick or annual leave, or do other characteristics of the job (for example, temporary employment) preclude some employees from qualifying?

Some creative strategies use technology to bring a measure of flexibility to ~~an~~ inflexible, low-wage work situation. The J.C. Penney department store chain has implemented a computer system for employee scheduling that enables parents to change their schedules almost daily and to match their scheduling needs with the company's need for workers. In addition, the company permits employees to work at any of the stores in a broad geographic area, rather than at just one store, which provides increased scheduling options.'

Additional research on the benefits and costs to employers of work-place flexibility options like flex time and flex place would be helpful. Additional options for increasing parents' flexibility range from creating job-sharing opportunities or employee backup systems to increasing scheduling

flexibility. Many creative options for improving job flexibility should be evaluated in a cost-benefit framework. Employers **are more** likely to create these alternatives when they see that the economic benefits outweigh any costs: These policies have been easy to justify for skilled workers because turnover costs can be extremely high. It has been more difficult for employers to see the benefits of such policies for low-wage workers. Nevertheless, employers can overestimate the risks of a new policy. Research examining the costs and benefits of such policies, and ways they can efficiently be set up, might give employers the necessary impetus to adopt flexible policies.

Another tool the government has is to regulate changes in employer behavior. Historically, the government has used regulations to ensure basic, universal labor standards, such as the minimum wage, the length of the work week, and the minimum age at which children may work. Most recently, the Family and Medical Leave Act (FMLA) of 1993 required employers to provide 12 weeks of unpaid, job-protected leave in a **12-month** period for employees to accommodate a specific family or medical reason such as the birth or adoption of a child. The act applies to all public agencies and to private sector employers who employ 50 or more employees and who are engaged in an industry or activity affecting commerce. At the time the law took effect; ‘one-quarter to **one-**third of formal employer policies matched FMLA rules regarding the length of and reasons for leave (U.S. Department of Labor 1996). Currently, only about one-tenth of private sector U.S. worksites are covered by FMLA, but approximately two-thirds of the U.S. labor force work for employers (both public and private) covered by the FMLA. Fewer employees actually qualify for FMLA benefits, however, since the FMLA also contains individual worker qualifications. Only 55 percent of the labor force actually qualifies for FMLA benefits by also meeting the FMLA length-of-service and hours-related eligibility requirements (U.S. Department of Labor 1996). The proportion of employees who are eligible for FMLA benefits and qualify for them is even lower for workers who

earn \$20,000 or less annually (42 percent), who have never married (41 percent), and who have less than a high school **education** (47 percent) (U.S. Department of Labor 1996).

A recent study surveyed employers and employees about the effects of the FMLA (U.S. Department of Labor 1996). Nearly 17 percent of employees surveyed in 1995 had taken leave for a reason covered by FMLA, while another 3.4 percent said that they needed leave, but did not take it, usually because they could not afford the loss of wages (U.S. Department of Labor 1996). A significant majority of employers report that the policy is easy to administer and entails small or no costs. Most employers also report that the FMLA has no noticeable effect, either positive or negative, on productivity, profitability, and growth (U.S. Department of Labor 1996). Thus, the FMLA is an example of a government regulation that encouraged employers to adopt a policy that has benefits for workers with no or very low costs for employers.

Recent policy proposals have tended to favor increasing job flexibility by extending the FMLA. For example, President Clinton has proposed requiring employers to offer one day per year for parents to take their child to the doctor or to attend a parent-teacher conference. However, before these proposals to expand the types of approved absences can provide a solution to the problem of inflexible jobs for low-income workers, the population of workers covered by FMLA needs to be expanded to include more low-income workers. Research is needed on the cost to employers of extending the FMLA to cover more workers, as well as the potential benefits, so that lawmakers have the information they need to consider closing the large gaps in FMLA coverage among low-educated, low-income workers.

C. INCREASING THE SUPPLY OF FLEXIBLE CHILD CARE ARRANGEMENTS

Many different kinds of job inflexibility can be addressed by a broader range of child care options and greater flexibility from child care providers. A variety of child care responses may be necessary because working parents face several different job-related issues that require different kinds of flexibility from child care providers. For example, some parents need child care during nonstandard or rotating work hours, while others simply need access to backup child care arrangements when their regular provider cannot work.

In this section, we discuss policy options for increasing the supply of child care for parents who work nonstandard hours and days, for parents who work rotating schedules, for parents who need some type of backup child care arrangements, and for parents with sick children. Any child care solution that is put forward must be acceptable to parents who make decisions about how their children will be cared for while they work.

1. Increasing the Supply of Child Care During Nonstandard Hours and Days

Very little formal child care is available during nonstandard hours and days. Child care providers usually prefer to work during the day while they are caring for their own children, or while their own children are in school. They can generally find enough children to care for during these hours to generate an income. If they cannot find enough children to care for during standard work hours, they can look for other jobs that pay as much as or more than child care work. As a result, child care providers may require greater compensation to work during nonstandard hours. Usually, the need for child care during nonstandard hours is less common, so providers who decide to work nonstandard hours cannot fill enough of their slots to generate sufficient income. For this reason,

employers, unions, and community organizations have tried to develop child care options that address the need for child care during evening and weekend hours.

The most direct way to address the problem of finding acceptable child care during nonstandard hours is to find or establish child care slots that will be available on a reliable basis during those hours. To encourage parents to choose this care, it may be necessary to ensure that the care is less expensive to parents than other options, that the quality is high, and that the site is near the workplace or the homes of families, thus reducing commuting costs relative to other options. Employers and community-based organizations have used several strategies to provide child care with these characteristics.

Large firms that employ shift workers 24 hours per day may decide that on-site child care is a worthwhile investment. This type of child care is most commonly provided by employers in the manufacturing and service sectors. Notable examples are hospitals, the military, and an automobile manufacturing company. When employers design on-site child care centers, they can tailor the programs to meet the specific needs of their businesses and workers and to complement the child care arrangements already available in their communities. Hospitals and the military are extremely inflexible employers--they need their employees to arrive at work on time every day, and they require staff to work at all times of the day and at night. An on-site center could provide flexible child care when the job allows little flexibility. For example, the Toyota Child Development Center, in Georgetown, Kentucky, operates an on-site child care center that is open 24 hours a day and can serve up to 230 children ages 6 weeks to 13 years. In addition to meeting the needs of workers from all shifts, the program is designed to accommodate parents scheduled for overtime work. When the plant operates on weekend days, child care is available at the on-site center. Parents pay fees that are approximately 40 percent below the market rate for child care (Bookman and Furia 1995).

In each case, on-site child care is affordable, of high quality, and located near work. Subsidizing the care and making sure it is of high quality increases parents' willingness to use the care. When workers live in geographically dispersed neighborhoods, the workplace is the most acceptable location for the child care facility. On-site child care also enables the employer to demand sufficient flexibility from child care providers to accommodate the inflexible demands of the job.

Employers will have an interest in providing flexible child care if they face high turnover costs when employees leave. The three primary reasons employers cited for investing in on-site child care are attracting employees (especially during second and third shifts), retaining employees over time, and increasing employee morale (Bookman and Furia 1995). Establishing an on-site child care center entails substantial up-front costs and high ongoing costs if the care is to be subsidized (necessary for low-income workers). For many low-wage employers, however, workers can be easily replaced, the cost of training new workers is low, and only a few workers are needed. In such situations, on-site child care is not worth the investment for employers without substantial assistance from other organizations or public sources.

Community-based organizations can encourage and help employers with on-site care. In Burlingame, California, for instance, a group of community members representing unions, local governments, employers, and other community groups formed a nonprofit organization called Palcare to provide child care for workers at San Francisco International Airport and surrounding communities (Bookman and Furia 1995). Using public and private funds, the organization created a child care center licensed to serve 150 children 24 hours a day. A small employer investment, combined with public funds and funds from interested organizations and many relatively small employers, can thus establish a child care center for low-wage workers in an area of concentrated,

round-the-clock, service employment. We need to learn more about the incentives and costs of forming such a **consortium**, as well as the conditions under which such an arrangement could be replicated elsewhere.

Employers can also form partnerships with community child care providers to extend their hours to cover the work schedules of their employees. For example, Con Agra Refrigerated Foods collaborates with Northwest Arkansas Head Start in Huntsville, Arkansas, to provide child care for its low-wage workers over a period of nearly 24 hours. Con Agra provided funds for initial start-up costs, which allowed the agency to expand its early childhood program to provide child care for children of all ages from 5:00 **A.M.** to midnight and on Saturdays when the company's plant is in operation. Con Agra purchases a specific number of slots from the agency and provides child care subsidies to employees (Mitchell, Stoney, and Dichter 1997). Learning more about the conditions that make this model appealing to the employer could help in designing ways to replicate it elsewhere.

A strategy that could require less initial investment and less control by employers, but that may yet help employees find acceptable child care during nonstandard hours is to reserve slots in existing child care centers and family child care homes for children of employees. In such a strategy, slots would be subsidized, located near employees' homes or the workplace, and operated in accordance with certain quality standards. A related strategy is to recruit and train family child care providers in target neighborhoods (near the workplace or employees' homes) when few such care options exist. These options permit smaller investments in child care slots, which can be targeted to meet urgent needs or to help retain employees when training costs are high.

The strategy of reserving slots may be used when employers are large but both workplaces and homes are dispersed over numerous geographic locations. For example, the Massachusetts Bay

Transportation Authority (MBTA) operates the Reserved Slot Child Care Program, designed for employees who work a **variety** of schedules at a large number of locations. The MBTA contracts with 32 licensed child care centers in the Boston area to provide child care for its employees. When evaluating providers for inclusion in the program, the MBTA Child Care Committee considers geographic location, hours of operation, and ages of children served to ensure that contracted slots meet employees' needs. The MBTA subsidizes child **care** for its employees on a sliding scale based on income, ages of children, and employee status (Bookman and Furia 1995).

All the strategies have been developed by large businesses or to serve large numbers of employees concentrated in one location, such as at San Francisco International Airport. These strategies would be more difficult to implement for parents who work in small businesses, where developing on-site or near-site child care is not feasible. As shown in Table 11.4, some occupations with the largest projected U.S. job growth and high percentages of employees who **work** nonstandard hours are service industry jobs, where many employees work for small businesses (for example, salespersons, cashiers, and waiters/waitresses). Thus, a substantial proportion of parents leaving welfare for work are likely to be employed in small businesses for which on-site child care is not an option. Multiple strategies will be needed to address gaps in the supply of child care available to these parents. For example, part of the solution may be to encourage large employers who offer on-site or near-site child care to make a portion of their slots available to other employees in the community.

In addition, public agencies could extend Con Agra's approach of forming partnerships with Head Start or other early childhood education providers to areas of concentrated, low-wage, nonstandard-hours jobs that may also be home to high-quality early childhood programs. With community support and parent fees, early childhood programs such as Head Start, public, preschools,

and other center-based arrangements could expand their hours of operation to provide extended care for children in their **programs**. State governments could fund extended hours from Head Start programs, prekindergarten programs, or other center-based care arrangements through Child Care and Development Block Grant funds or other state child care funds. Community groups could also join forces to assess the need for flexible child care and then develop child care options.

Recruiting and training family child care providers can target resources toward gaps in the supply of child care during nonstandard schedules for parents who work for large and small businesses. This strategy can enable a large employer to help employees with the greatest child care need, or, with some organizing effort, a group of small employers could pool resources to support child care recruitment and training efforts. The Close to Home project in Phoenix, Arizona, is one such consortium of local employers. Consortium funds are used to (1) support efforts to recruit and train family child care providers in geographic areas where employees live or work, (2) offer financial incentives and support services for new providers, (3) train providers in ways to accommodate parents with nonstandard schedules, and (4) match new providers with experienced mentors (Bookman and Furia 1995).

Any solution based on family child care slots, however, will need to overcome the concerns of low-income parents about trust and safety. Many low-income parents are reluctant to use family child care if they do not know the provider (Lamer and Phillips 1994; Phillips 1995; Porter 1991; Polit et al. 1989; and Siegal and Loman 1991). When low-income parents do not have a trusted relative or friend who can provide home-based child care, they prefer the public setting of a child care center. In addition, studies of low-income parents uniformly suggest that these parents prefer center-based care for their older preschool children, reflecting their desire for an arrangement that provides learning opportunities for preschoolers (Hofferth 1995).

However, when parents work during evening, night, and early morning hours, the quality of the learning environment may not be as high a priority, because children are asleep for most of this time. For these parents, concerns about safety and security are likely to be a higher priority. Nevertheless, if strategies to provide child care during nonstandard work hours are to be successful, organizations will need to provide a high level of training and oversight to providers, and they will need to convince parents that the providers receive adequate supervision. The need for training and oversight may make this strategy more expensive than purchasing slots in a child care center or establishing a center in an underserved neighborhood. However, no studies have yet examined the cost-effectiveness of these strategies in low-income neighborhoods.

A less direct way of helping parents secure child care for nonstandard hours is to provide financial assistance to help them pay for their own child care arrangements. Because of the scarcity of formal child care arrangements during nonstandard hours, parents may need financial assistance to compensate providers for working nonstandard hours. Many states have already acknowledged this issue by increasing the child care subsidy rate for care provided during nonstandard hours. Organizations that seek to establish child care slots during nonstandard hours may need to pay higher rates for such care, although other benefits of the network (for example, a steady supply of children to fill slots and guaranteed payment for services) may lessen the need for higher reimbursements. Research needs to focus on the effectiveness of higher reimbursements and other incentive strategies in developing a supply of reliable child care arrangements during nonstandard hours.

Most low-income parents who must find child care on their own for nonstandard hours rely on relatives and friends. Parents often prefer these providers because they are trusted individuals who can be more flexible than regulated providers, especially during nighttime hours. Friends and

relatives, however, tend to be more unreliable than regulated providers, and they may not be committed to providing **child** care on a long-term basis.

Another option for increasing the supply of child care during nonstandard hours is to develop systems of support for home-based providers that could increase their reliability, their skills as child care providers, and their commitment to providing child care. One study of family caregivers indicates that this group would not respond positively to offers of formal training but that they would respond to less formal **support** among other local community-based organizations, which have achieved the best success reaching out to kith and kin providers and parents using a family resource and support model (Butler, Brigham, and Schultheiss 1991). However, no studies have examined how such programs might affect the job tenure or quality of these providers or the cost of this strategy. Furthermore, we are not aware of any organization that has implemented such a strategy in a low-income community.

2. Increasing the Supply of Child Care for Parents Who Work Rotating Schedules

Parents' rotating schedules pose a different problem. A provider who cares for children who attend on unpredictable schedules cannot operate at capacity without on-call, flexible staff to respond to higher- or lower-than-average attendance. Most center-based programs do not accept a child whose attendance is unpredictable. Licensing rules require that the center employ one adult to supervise a specific number of children; if schedules are unpredictable, too many children may attend at one time. If we consider that a single 24-hour period would require three shifts of **full-time-equivalent** (FTE) staff members, a child who attends on a rotating schedule that changes each week may necessitate the hiring of three FTEs to cover attendance during only one of those shifts, unless center staff themselves work rotating schedules. The cost of child care for rotating schedules would,

therefore, be higher than for standard or unchanging schedules, either because the provider must maintain some excess **capacity** or because the unpredictable schedule requires close management of staff resources.

The employer-sponsored on-site or near-site child care is one response to the problem of unpredictable schedules where the employer subsidizes the cost of maintaining unused capacity or closely managing labor resources so that the center can meet licensing rules under any possible configuration of attendance. Central Atlanta Hospitality Childcare, Inc. is a nonprofit organization founded by a group of hotels in the Atlanta area to operate a child care center (called the Children's Inn of Atlanta) for children of low-income service industry workers. This center accommodates workers with nonstandard schedules by permitting parents to change their children's schedule of attendance on a regular basis. Parents using the **Palcare** center can also change their child's attendance on a monthly basis, according to the parents' work schedules and family needs. Parents who need to work overtime or who have unanticipated schedule changes can request additional hours of care (Bookman and Furia 1995).

Other options for addressing the problem of rotating work schedules include setting aside slots at centers for parents with work rotating schedules, providing financial incentives to child care providers who allow parents to change their child's schedule of attendance on a regular basis, and developing ways to support informal child care providers who can care for children whose parents work changing schedules. In addition, child care centers and family child care homes could be paired to provide a package that covers the hours of care a family needs and accommodates changes in the regular schedule. However, this solution would involve more disruption for the child than other options, and the problem of both the center and family child care homes needing to maintain excess capacity may be greater. To learn more about the costs, benefits, and feasibility of these

approaches, research must focus on models of formal and informal child care that accommodates rotating work schedules for employees of large and small businesses.

3. Increasing the Supply of Backup Child Care Arrangements

Backup child care arrangements may be needed for crisis situations and for special needs (for example, when the child care provider is ill) or with some amount of warning (for example, when the child care provider or the school takes a holiday). This causes a problem for parents, especially if they do not already have an established relationship with another provider. Newly employed parents should plan ahead and investigate potential backup arrangements with relatives, friends, or neighbors so they will be prepared for anticipated or unanticipated breakdowns in their regular child care arrangements. Another option is for employers and community groups to develop backup child care options that parents can use in the event of a breakdown in their child care arrangements.

Although few employers provide regular child care for employees, some provide drop-in or emergency child care arrangements by purchasing a small number of slots in selected child care centers or family child care homes. Some child care providers are organized in networks that offer backup care to parents who use providers in the network. For example, Monday Morning, Inc., in central New Jersey, operates a family child care network in which parents are given lists of other providers in the network who are located near where they live or work and who are available to provide backup care. On days when their own provider is ill or on vacation, parents can call a provider on their backup list to arrange care.

Most low-income families, however, do not use regulated family child care providers and do not have access to such networks. To meet the needs of these families, resource and referral agencies and community organizations could create networks of backup child care providers. Community

or neighborhood organizations would provide information about the availability of backup arrangements at the **neighborhood** level. Community organizations that create support networks among informal providers could also use these networks to create backup care options for families. For example, Monday Morning, Inc. is a family child care network. Some administrative services are necessary to organize the network and provide sufficient oversight of providers to assure parents that the substitute providers offer care of acceptable quality. These administrative services increase the cost of child care. Research is needed to examine the conditions under which these models could meet the need for backup child care in a low-income community, as well as the costs of providing such care and the benefits of this option for employment retention.

4. Increasing the Supply of Child Care for Sick Children

Sick children present a special case requiring backup child care. Most group child care settings will not accept sick children, and illnesses are frequent when children are very young. Furthermore, children who are too sick to attend their own child care setting cannot go to a different group care setting; they need to be cared for apart from other children. Although we present existing models for providing child care to mildly ill children, we recognize that most of these models are not attractive options for sick children and their parents. This problem may best be addressed by exploring ways to provide workers with leave time to care for their sick children at home.

When parents themselves cannot care for their sick children, one alternative is to provide a room at the child care center or provider's home for sick children. Some centers employ a health care specialist to care for sick children in the sickroom, which provides a place and provider familiar to the child. The care provider can also give the child care and attention during the day. In family child care homes, however, the segregated child who is sick may present serious supervisory

problems for a single provider who must care for both sick and healthy children. Local hospitals or clinics may establish a “sick child center.” However, children who are not feeling well may be uncomfortable in a new setting with a new provider, and parents may be reluctant to leave the child there. Finally, some employers will pay for a caregiver who goes to the child’s home when the child is ill, which eliminates the problem of going to an unfamiliar place. However, the child is with an unfamiliar provider.

Family child care homes can also be used to provide child care for mildly ill children. For example, a family child care home could be used as a satellite for a child care center to provide care for children who become ill during the day or for children too ill to attend the center. Family child care homes can also be used to provide care for sick children from the broader community, rather than just one center (Rodgers, Morgan, and Fredericks 1986). Problems remain, however, in providing supervision and care for a sick child who must be segregated from healthy children and in the sick child’s level of comfort in an unfamiliar care setting with an unfamiliar provider.

More than half of informal providers are willing to care for mildly ill children. Consequently, providing support to informal providers that could increase their reliability and skills as providers is another strategy for increasing the supply of child care for sick children.

Research is needed to evaluate the costs and benefits of all these strategies, as well as their acceptability to parents and providers. We also need to identify the conditions under which these strategies might be either necessary or desirable to parents and employers.

*Personal communication from Ellen Galinsky, January 16, 1998.

IV. CONCLUSION

Recent research emphasizes working parents' needs for **sufficient** flexibility in their family support, jobs, and child care arrangements to meet their employment and child-rearing obligations (Oregon Child Care Research Partnership 1997). However, the inflexibility of low-wage jobs, combined with single parenthood and a scarcity of formal child care options in low-income neighborhoods and during nonstandard hours, suggests that some women leaving welfare for employment may be particularly disadvantaged in finding a "flexibility solution" that will support their employment activities.

This discussion has reviewed the available research on the extent of the flexibility problem for low-income parents, its relationship to continued employment, and policy options for improving the flexibility of support for combining employment with child-rearing. We also have noted several areas in which additional research is needed to understand more fully the extent of the problem and to assess the usefulness of possible solutions.

This review of the literature reveals significant gaps in our knowledge of the extent of the problem facing low-income working parents as they try to develop child care solutions that complement the requirements of their jobs. Based on our review of available literature, we conclude that we cannot answer the most basic questions:

- What is the proportion and what are the characteristics of low-income parents who face significant inflexibility in their jobs, family support, and child care arrangements?
- To what extent does lack of flexibility in jobs, family support, and child care arrangements lead to negative employment outcomes, including job loss?

Each problem of **inflexible** job, child care, and family situation has been documented individually, but in some cases with out-of-date or narrowly-defined samples. We summarize our conclusions and recommendations for research on the extent of the problem in each area as follows:

- **Family Support.** Based on the available information, we conclude that only about **one-half** of welfare recipients would have a family member who could help out in a child care or work emergency. The literature in this area is so spotty, however, that we do not really know which parents currently have good support through family networks, and no one knows how welfare reform will affect these arrangements (both regular child care and family backup support). Data on the proportion and characteristics of welfare recipients and low-income working parents with such family support are needed on a post-TANF and more nationally representative sample, since family support can significantly reduce the need for other types of public and private support.
- **Employment.** Based on the employment literature, we conclude that about half of parents leaving welfare for work are likely to have nonstandard schedules. However, the number of such jobs is growing over time, and the most recent estimates for low-skilled working mothers are from the early 1990s. Employee leave policies provide an important source of flexibility to parents, but we found no studies that estimate the availability of paid or unpaid sick or annual leave among low-income parents and the extent to which employees used this leave when it was needed (apart from a comprehensive study of the types of leave covered by the Family and Medical Leave Act of 1993).
- **Child Care.** Based on the child care literature, we conclude that few center-based or regulated family child care options exist during nonstandard work hours, and these may not be the types of child care most preferred at these times. We need information on the types and characteristics of child care that parents would like during nonstandard schedules and how the supply of child care by friends and relatives responds to economic and regulatory variables.

As we evaluated the information on family support, employment, and child care flexibility, we found that we know very little about how successful low-income parents are at arranging a job, family, and child care package that provides sufficient flexibility to support their employment activities. Only **Emlen** has measured all three, but since the sample included employed parents, we

do not know the proportion of welfare recipients who enter jobs facing high levels of inflexibility along all three dimensions and who, for this reason, cannot sustain their employment.

To address these information gaps, we recommend a descriptive study of a sample of mothers who are receiving welfare and entering jobs. The study would measure the degree of flexibility these women report in their family support, jobs, and child care arrangements. Interviews would be conducted at about 6-month intervals thereafter, and would measure employment since the previous interview, characteristics of jobs held, wages, and earnings. Interviews would continue to measure flexibility in jobs, child care, and family support. The interviews could also measure job stress, fringe benefits, and the perceived quality of child care. A period of about 18 months would be sufficient to observe how the degree of flexibility in jobs, child care, and family support affected job retention and employment stability.

We would also recommend improving our understanding of the three areas of inflexibility through new studies and analysis of existing data. We recommend exploring family support in a sample of low-income working parents and parents receiving welfare who are entering jobs. The availability of family members who could care for children in an emergency may depend on having another adult in the household or being part of a culture that values family support, whether or not relatives live in the same household. Therefore, a study should survey parents about their regular and backup child care arrangements, the types of child care emergencies they have experienced and how they addressed them, and who they can count on, both inside and outside the household, to provide child care in an emergency. The analysis should examine how ethnicity, living arrangements, and income level interact in determining the degree of flexibility parents have in their family support.

More information is also needed on job flexibility and inflexibility. A sample of low-income parents and parents **receiving** welfare and entering jobs could provide information on the incidence of nonstandard work schedules, rotating work, and unexpected overtime. Parents should also be asked whether they prefer to work nonstandard hours. Information should be obtained about fringe benefits, particularly paid and unpaid leave, and the ease or difficulty with which employees can use this leave. Information on availability of benefits should be related to job tenure to determine the degree to which employees are expected to work for an initial period before having access to paid leave.

Information should be obtained about the flexibility of child care arrangements and about backup child care arrangements. Parents working nonstandard schedules should be asked about their preferences regarding relatives, home-based providers, or centers caring for their children outside the standard work day. Parents should be asked about what arrangements they made to care for a sick child and what they did the last time a child was sick.

If the descriptive studies confirm that flexibility is an important problem that threatens job stability and employment retention, we would recommend a research demonstration that would test possible solutions to the problem:

- **Overall Approach.** We propose following parents over 12 to 18 months, at least, in order to measure the effects of flexibility or a lack of flexibility on their employment. If longer-term employment outcomes would be desirable to measure, the families could be followed for a longer period. Interviews should be scheduled at baseline and at 6-month intervals so that details about employment and child care arrangements can be recalled accurately.
- **Sample.** A sample of parents should be drawn from a population of welfare recipients who are required to enter work activities, so that the sample contains a mix of flexibility situations, some potentially incompatible with sustained employment.

- **Interventions.** We recommend three types of interventions for this sample of parents. One would be a supply of flexible, high-quality, community-based child care arrangements that **parents** could use either when their own arrangements fell through or on a regular basis. A second would be up to five days per year of flexible, paid, family leave for all workers: To encourage cooperation, employers could be compensated for the cost of the program in wages and benefits. A third intervention would provide parents with information that would help them to develop a flexibility solution given their own family, job, and child care situations. A counselor would provide them with ideas and encouragement to think of creative solutions to the problem. These options would need some refinement so that they can be implemented and possibly replicated. One or more of the interventions could be implemented in the context of a **random-**assignment demonstration with one group receiving no special services.
- **Research Questions.** For the control group, we would ask a set of descriptive questions: What proportion of parents entering employment have inflexible jobs, family situations, or child care arrangements? What proportion of parents have relatively high inflexibility across all three dimensions? How much flexibility is needed across these dimensions to sustain employment activities? How does the amount of flexibility change over time as the parent has more experience in employment? Several more questions involve group comparisons: How effective is the availability of high-quality, flexible child care in supporting employment? How often did parents use these facilities for back-up care? Did parents try out these facilities and then return to use them for regular child care? How effective is flexible, paid, family leave in supporting employment? How effective is information provision in supporting employment? Do parents who received information have more flexibility than families in the control group who did not receive information?

In conjunction with the research demonstration described above, there should be some effort to develop appropriate measures of flexibility across the three dimensions. The measures should be a combination of factual items and parents' perceptions of the flexibility of the situation. Factual measures of family circumstances, employment policies on the current job, and the child caregiver's policies might include the following: the number of days of sick and annual leave parents accrue during a year, the conditions under which parents might qualify for leave time if they do not already qualify for paid leave, requirements for punctuality, policies with regard to child illnesses, and availability of backup child care arrangements. **Emlen** has developed a short, 12-item scale that

measures parents' perceptions of flexibility along each of the dimensions, primarily through use of a four-point Likert-type scale.

Learning more about the costs and benefits of flexible employment policies may help convince more employers to adopt these policies. A research study should examine the effects of employer initiatives to increase job flexibility for low-wage workers. Researchers should look for opportunities to work with an employer who is considering an expansion of paid leave and more flexible scheduling, including job sharing or other employee backup systems. The research would measure changes in employer costs before and after the policy change, including absenteeism, management time required to monitor employees' work hours and productivity, turnover, and the cost of expanded leave. The research should also measure the benefits to employees, including their levels of work and family stress, job satisfaction, and job retention.

The costs and benefits of various strategies to increase the flexibility of child care should also be examined. Family child care networks that help link parents with regular and backup providers, various options for caring for sick children in child care, and family child care providers working nonstandard hours should all be evaluated to identify the costs and benefits -to parents, children, providers, and other organizations (including the local child care agency or a community-based organization).

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3

**Sustaining Employment
Among Low-Income
Parents: The Role of
Quality in Child Care**

A Research Review

Final

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I. INTRODUCTION

When parents select a child care setting, one of the issues they are concerned about is the quality of the experience for their children. Parents say they are looking for a safe environment, a “warm and loving” provider, and activities that will interest the child and prepare him or her for school (Cryer and Burchinal 1995; Emlen 1998; Galinsky et al. 1994; Hofferth et al. 1991). Child development professionals are also concerned about the quality of children’s experiences in child care and have developed good-practice standards to help child care providers improve the quality of their services (Bredekamp 1997; *Federal Register*, November 5, 1996; Ferrar 1996; Ferrar, Harms, and Cryer 1996; and Lally et al. 1995). Child care settings can be, at worst, unsafe and boring. At best, preschool child care settings can better prepare children for school, promote good physical and mental health, and teach children to get along well with their peers and with adults. Child care settings for school-age children can provide necessary supervision along with safe, constructive activities to reinforce or supplement what children are learning in school.

In child care policy, there is a fundamental tension between the goals of child development , which require an investment in quality child care, and the goals of employment, which require that child care be made affordable for more families. Pursuing child development goals would require spending more resources on fewer children in order to ensure a particular level of quality in child care that is funded by the public. Pursuing employment goal would require spending fewer resources on more children so that the cost of child care would be lower for more families. Policymakers who view parental employment as the major objective tend to view affordability as the cornerstone of a viable policy strategy because of the importance of child care costs to the

employment decisions parents make. In connection with this view, the policy debate has assumed that the goals of employment and those of child development are entirely competing, so that additional funds spent on the latter come at the expense of supporting a parent who needs help paying for child care in order to work. However, if the quality of child care affects parents' employment decisions, then to some extent, the goals of employment and child development are consistent, so some investment in child care quality would promote employment as well as children's well-being.

The quality of child care can vary widely, and it is easy to imagine how changes at both the low and the high ends of the quality spectrum could affect employment in important ways. For example, changing from an unsafe and unstimulating child care setting to a safe and interesting setting could lead to improvements in employment among low-income mothers. That is, if parents are able to avoid child care settings that fall below a particular threshold for quality, they may be able to more successfully pursue their employment activities. Similarly, a shift from a mediocre child care setting to a very high-quality setting could also improve employment outcomes by leading to greater improvements in parents' effectiveness as employees.

If the quality of child care affects parents' employment decisions, then policymakers may need to invest in quality to some extent as they allocate child care funds across families. Investments in quality have traditionally been made because of their expected benefits for children. In this paper, we explore whether or not the quality of child care also has an impact on parents' employment decisions. If so, then quality of care issues need to be considered along with the cost of child care as policymakers seek ways to support employment for low-income parents.

In order to understand the relationship between the quality of child care and employment, we must first understand how quality in child care is defined, both by professionals and by parents. In the second chapter of this paper, we describe what quality child care means from both perspectives.

We also conclude that parents and professionals mean the same thing, for the most part, when they talk about quality, but they tend to disagree in their evaluation of the quality of a particular child care setting. We discuss the possible reasons for this discrepancy.

In Chapter III, we discuss- the fundamental issue for the paper: how child care quality and employment might be linked, and what we know empirically about the relationship between the two. We argue that parents' evaluations of child care settings are an important factor in their employment decisions, but we know little about how parents form these evaluations about a child care setting over time, and if their opinions were to change, how close they might come to professional evaluations. We review the empirical evidence on the relationship between child care quality and employment, and conclude that a very limited amount of evidence suggests that there is a link between the two. But we lack broad and convincing evidence on the importance of the quality of child care across different settings and in the current policy environment of stronger work requirements and time-limited welfare.

If quality child care is judged to be an important goal of child care policy, then the issue of how to link parents with appropriate-quality child care must be addressed, which we do in Chapter IV. Supply-side issues may have to be addressed, since the child care market is currently offering the quality and features of child care that parent fees and other available resources can support. We discuss what quality child care costs on an ongoing basis and what it might cost to develop a supply of such care. We also discuss policy initiatives designed to improve the quality of child care for low-

income families. On the demand side, we address the question of whether low-income parents would want to use quality child care were it made available. Alternatively, if parents were given more resources to pay for child care, would this exert market pressure on child care providers to improve the quality of care? To address these questions, we examine parents' preferences and choices with respect to quality child care. Parents already make complicated decisions about care settings for their children. Increasing the emphasis on quality would require that parents receive more information about the importance of quality child care and about how to identify a quality child care setting. We discuss models of parent information to identify promising methods of linking parents with good-quality child care.

The purpose of this paper is to provide the basis for a research agenda that would inform the design of child care policy to support families leaving welfare for work and low-income working families in general. The final chapter summarizes what we know about quality child care and its relationship to employment decisions of low-income parents and proposes an agenda for future research. One companion paper reviews research on the links between employment and the cost of child care. Another companion paper reviews research on the flexibility of jobs, child care, and family situations as they affect the ability of parents to remain employed over time.

II. THE QUALITY OF CHILD CARE

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Quality in child care refers to children's experiences in the child care environment and to features in this environment that are believed to affect children's development. In this chapter, we discuss how quality child care is defined so that we can identify ways in which the quality of child care might affect parents' employment. We consider both the professional and research definitions of quality and parents' views-of quality. Parents' views of child care quality are similar to professional and research perspectives in many ways, but their evaluations of the quality of a particular setting are often different. We explore the possible reasons for the different perspectives on quality but note that there is much we still do not know about the relationship between professionals' and parents' evaluations of quality. This gap challenges us to learn more about the relationship between child care quality and employment, as we will see more clearly in Chapter III.

A. HOW PROFESSIONALS DEFINE AND MEASURE QUALITY IN CHILD CARE

Professionals use a combination of research and good-practice standards to define and measure quality child care. Good-practice standards currently exist for a range of child care settings and age groups. For instance, the National Association for the Education of Young Children (NAEYC) has described "developmentally appropriate practice" for programs seeking to improve the quality of center-based care for children from birth to age 8 (Bredekamp 1997); Zero to Three has published guidelines for caregivers of infants and toddlers in groups (Lally et al. 1995); the Head Start Bureau has published performance standards to guide Head Start and Early Head Start programs toward quality (*Federal Register*, November 5, 1996); the National Institute on Out-of-School Time (1998) has developed a national improvement and accreditation system for formal school-age child care programs; and the National Association for Family Child Care (1995) has published quality criteria

for home-based child care. Research linking “quality” features of formal child care settings with desirable outcomes for **children** is well-developed for the birth-to-age-5 group (see Love et al. 1996 for a summary of the research literature linking child care features and children’s outcomes).

However, our conceptualization of the features of quality child care for school-age children is much less developed than those for younger children. The good practice standards for child care for school-age children pertain to formal settings for children (Bredekamp 1997; National Institute on Out-of-School Time 1998), which are not widely used after age 9. Some researchers have recently begun to identify the features of child care settings that might be important for school-age children, but to date, there is no consensus on the features of quality care for school-age children outside the formal care settings. Nor have the features of quality care for school-age children that cut across settings and age groups been examined in relationship to measures of children’s development (Seppanen et al. 1993; Vandell and Posner, in press).

Moreover, much more work is needed to define and measure quality for young children in informal, home-based child care settings, and for care at nonstandard hours. There is also more work needed to define and measure quality child care in ways that allow comparisons across the full range of settings. Some promising work that could address these gaps is currently underway as part of the National Study of Child Care for Low-Income Families’ and the Early Head Start Local/National evaluation.’

1. Defining Quality Child Care for Young Children

Definitions of child care quality for infants, toddlers, and preschool-age children emphasize the importance of classroom interactions, or the behavior of caregivers toward children. For instance, in a good-quality program, caregivers frequently smile at children, touch and hold them, and speak

to them at their own eye level. Caregivers in a good-quality program also respond promptly to children's questions, **extend** children's actions and verbalizations with more complex ideas or materials, use positive guidance techniques, and encourage appropriate independence. These features of the child care environment, often called, "process quality," are generally considered to be the essence of a quality program. Since they pertain to the behavior of adults toward children, they can apply to home-based as well as institutional settings.

Much of the research on child care quality has focused on institutional settings, so the evidence we have on what contributes to quality of care pertains to features of formal settings. Many child development researchers emphasize the importance of structural features of the classroom, such as group size and age range, caregiver-child ratio, and size, organization, and safety features of the classroom. While the relationship between structural features and process quality of the setting has not been consistently demonstrated (Blau 1997, Love et al. 1992), the former are believed to provide a supportive environment, which in turn, facilitates process quality (Love et al. 1996). But to more firmly establish this relationship, we need more statistically sound research that uses a variety of data sets.

Caregiving in formal settings takes place within the larger context of administrative practices, parent participation, and program support services that can affect the quality of children's experiences. Administrative practices include auspice, caregiver qualifications and compensation, staff turnover and experience, and continuity of care--all of which can affect the quality, stability, and dedication of caregivers (Whitebook et al. 1989). Parent involvement can provide an important resource for child care programs and, by fostering communication between parent and provider, improve the quality of care both at home and in the child care setting. Supportive services for families include physical and mental health services, nutrition, and social services, which may affect

the child's ability to regularly attend and benefit from child care. Research defining and measuring quality in informal care **settings**, including care provided by relatives, is sparse. Notions of quality developed for formal settings, where larger groups of unrelated children are cared for, have been applied to home-based child care, but the fit has not been good. Informal and "relative care settings" may include only one or two related children, so some of the formal practices necessary to keep a larger group of children organized and well-cared-for may be unnecessary in a smaller setting where the child and family are more familiar to the caregiver. **Moreover**, a person caring for one or two related children may not need specialized training in order to respond appropriately to the children's needs and to provide appropriate- emotional support.

Some of the more promising work in conceptualizing quality of child care in ways that can extend across the range of institutional and home-based settings uses observational measures of process quality (Boller and Sprachman 1998; Howes and Stewart 1987; NICHD Early Child Care Research Network 1996). These measures focus on what the child is doing, what emotion he or she is displaying (if any), and what the caregiver is doing at specified intervals (for example, one minute) within defined windows of time (for example, 5 to 10 minutes every half-hour); From these **time**-sample ratings, researchers can code such variables as the percentage of time the child watches television, the percentage of time the child is wandering or unoccupied, the percentage of time the caregiver speaks positively to children, and the child-centeredness of care.

The Low-Income Child Care Study has built on these directions in measuring child care quality. Researchers developing this study are conceptualizing quality in terms of four aspects of child care: (1) the extent to which caregivers interact with children in ways that are expected to enhance development; (2) how well children play with peers and with objects; (3) the safety, space, noise, and other basic features of the environment; and (4) the parent-caregiverrelationship. Thus, process

quality, or the caregiver's behavior toward children and the child's experience in the care setting, is given strong emphasis in this concept of quality. This concept is taken from the literature on good parenting practices, which emphasizes responsiveness to children, but it would likely apply well to other child care settings outside the home.

2. Measuring the Quality of Child Care for Young Children

Caregiver-child interactions, the feature of a child care setting seen by researchers and practitioners as most fundamental to quality, are also the most difficult to measure. A short interview with either the parent or the caregiver will not suffice. Instead, reliably measuring classroom dynamics and caregiver behavior requires a relatively long period of observation (from two hours to several days in the child care setting) by an individual who has been trained to make consistent judgements about a range of child care settings (Abbott-Shim and Sibley 1987 and 1989, Amett 1990, Boller and Sprachman 1998, Harms and Clifford 1989 and 1998, Harms et al. 1990, NICHD Early Child Care Research Network 1996, Sibley and Abbott-Shim 1987). Some of the recently developed measures of quality classroom interactions focus on the behavior of caregivers toward children, including the amount of smiling, positive verbal exchanges, negative disciplinary practices, and similar types of behavior that take place within a specified time period (Amett 1990, Boller and Sprachman 1998, NICHD Early Child Care Research Network 1996). Other standard measures of child care quality are considered to be "global" because they rate several areas in addition to caregiver behavior, including equipment and materials, activities, health and safety, and the adult work environment (Abbott-Shim and Sibley 1987 and 1989, Harms and Clifford 1989 and 1998, Harms et al. 1990, Sibley and Abbott-Shim 1987).

The fact that reliably measuring the most central aspects of the quality of a child care setting is both costly and difficult means that we have less information about child care quality and important

correlates of child care quality than we need in order to fully address the issues discussed in this paper. This fact partly **explains** why there is also very little research on the relationship between child care quality and parents' employment.

Good substitutes for observational measures of the quality of a child care setting do not exist. Data on the structural features of the child care setting, such as staff-child ratio, group size, and provider education and training, can be easily obtained from an interview with the provider, although observed group sizes and ratios are often better than reported group sizes and ratios because the former reflect absences. However, while many studies have found that structural features of the child care setting are positively correlated with quality of care and with children's development, the correlation is not especially strong, and some studies have not found the relationship between structure and quality to be consistent (Blau 1997; Galinsky et al. 1994; Love et al. 1996). Therefore, structural features cannot be considered a good proxy for measures of caregiver-child interactions. Moreover, directors' reports about group size and staff-child ratios are often different from observed levels because of absences (Phillips et al. 1994; Love et al. 1992), and parent reports may be even more inaccurate when parents are likely not to know how many children are enrolled in the class or the day care home. The NCCS concluded that parents did not very reliably report on child-staff ratios, although they were reasonably reliable in reporting group size and whether the provider had specific child-related education or training (Hofferth et al. 1991). Nevertheless, reports by parents on group size or ratio may be the lowest-cost measurement strategy if we are also collecting employment data, and they may be important as quality measures if they correlate well with the parent's perception of quality, a point we discuss in the next chapter. In fact, it may be more accurate to think of parents' reports of group sizes and ratios as indicators of their perceptions of quality, rather than as measures of actual group sizes and ratios.

3. Conceptualizing and Measuring the Quality of Child Care for School-Age Children

Conceptualizing and *measuring the quality of care for school-age children has lagged considerably behind developments in this area for younger children because there has been far less research in this area (Vandell and Posner, in press). The salient research issues regarding the links between features of child care settings and children's developmental outcomes are different for school-age children because these children are older, and because they are in school for much of the day, they spend much less time in nonparental child care than do preschool children. A wider variety of arrangements are appropriate for school-age children than for preschool-age children, including self-care, lessons or clubs, and formal programs, and these arrangements may vary over the course of a day or week. The appropriate type of arrangement may vary as the child ages, with younger children needing more formal programs and direct adult supervision, and older children managing well in self-care with parent monitoring by telephone (Todd, Albrecht, and Coleman 1990).

Some of the literature on school-age child care has related the type of primary setting — for example, self-care compared with other forms of care — to children's outcomes (Steinberg 1986, Vandell and Ramanan 1991, Rodman et al. 1995). More recently, researchers have obtained time-use reports from children or observers about who the child is with, where the child is, and what the child is doing at short intervals between the end of school and 6 p.m. over the course of a week, and these times have been related to children's outcomes (Miller et al. 1996, Posner and Vandell 1994, Vandell and Posner 1995). However, these researchers note that the time-use measures of school-age child care omit many of the most important aspects of quality.

Measures of quality in formal school-age child care programs expand on the ideas about quality care for preschool-age children in centers. The School-Age Care Environment Rating Scale (Harms et al. 1995) extends the approach developed for the ECERS by measuring the quality of space and

furnishings, health and safety, activities, interactions, program structure, and staff development. However, a different **instrument** would be needed to measure quality across the full range of **school-age** child care settings.

Vandell and Posner (in press) suggest that children's after-school environments be conceptualized using an ecological systems approach that flows from the work of Bronfenbrenner (1979) and considers the contexts in which the after-school arrangements take place: the neighborhood, the family, and the individual child. Within this framework, they suggest that the following features of these environments should be measured:

- The quality of children's interactions with parents, siblings, other adults, and peers
- Specific activities, which may be either growth-enhancing or detrimental to development
- Children's and parents' perceptions of these experiences

The first two features listed above are also considered to be fundamental to quality in child care for preschoolers, although they may be defined somewhat differently in measures of quality for the two different age groups. Nevertheless, this approach moves in the direction of other instruments developed to measure quality across the full range of preschool-age child care settings by emphasizing process quality, or the quality of the child's activities and relationships in the care setting. However, no research has yet related the *quality* of school-age child care to children's development (Vandell and Posner, in press).

Stability or consistency of after-school care has not been prominent in research on school-age child care as it has in research on preschool-age child care. Some variation in after-school arrangements and activities may be developmentally appropriate for school-age children in that it balances structured activities with free time, allowing these older children to experience different

levels of adult supervision, to broaden their social networks, and to give them opportunities to try different activities (Vandell and Posner in press). Nevertheless, too much variation in the after-school setting may be chaotic, leading Vandell and Posner (in press) to suggest the possibility of nonlinear effects between children's development and the number and types of activities and settings. To date, no research has addressed the issue of what is an appropriate amount of stability in after-school care (Vandell and Posner, in press).

B. PARENT PERSPECTIVES ON THE QUALITY OF CHILD CARE

Many of the characteristics parents value in a child care setting are aspects of quality as it is defined by child care researchers and professionals. In this section, we discuss parents' understanding of quality care and how this relates to quality as it would be measured by early childhood professionals. We then discuss the extent and possible sources of divergence between parents' and professionals' evaluations of the quality of a particular child care setting.

1. Aspects of Care Valued by Parents

Several studies indicate that one of the most important qualities low-income parents seek in a child care arrangement is a safe environment in which the caregiver can be trusted (Lamer and Phillips 1994, Phillips 1995, and Siegal and Loman 1991). Many families in these studies lived in communities with high rates of crime and drug use, which heightened parents' concerns for their children's safety. Concerns about safety and trust lead some parents to prefer relatives, such as their own mothers, to care for their children (Kisker and Silverberg 1991). In fact, low-income parents responding to the *National Child Care Survey* 1990 cited care by relatives as the top reason for choosing their current arrangements (Brayfield et al. 1991). Concerns about safety and trust also lead some families to seek the public setting of a child care center rather than the more private

setting of a caregiver's home if the caregiver is not a relative (Phillips 1995). Child care provided by an unrelated adult in his or her home appears to be the least desirable option for low-income mothers (Porter 1991, Siegal and Loman 1991, and Sonenstein and Wolf 1991).

In many studies about parental preferences, quality child care arrangements have been defined by low-income parents as a nurturing environment that also provides educational opportunities (Lamer and Phillips 1994, Phillips 1995, and Siegal and Loman 1991). Low-income parents tend to define quality differently, depending on the age of their child (Lamer and Phillips 1994; Sonenstein and Wolf 1991).

For instance, parents of infants seek child care that they believe will provide a nurturing environment and that will be similar to parental care (Lamer and Phillips 1994). Consequently, parents of infants are more likely to prefer informal care provided by relatives or friends in a home setting (Hofferth 1995). In fact, focus group participants from New Jersey's REACH program felt that if infants could not be cared for by their mothers, another relative was the most appropriate substitute caregiver (Porter 1991). Indeed, infant care was the only situation in which these mothers found relative care preferable to other types of care.

Parents of preschool and school-age children tend to value learning opportunities over nurturing in the child care setting (Lamer and Phillips 1994; Miller et al. 1996). Studies of low-income parents uniformly suggest that they prefer center-based care for their older preschool children because they believe that centers provide more opportunities than an in-home setting to learn (Hofferth 1991). Even when children spend their infancy in in-home child care settings with relatives or other providers, parents desire to switch to center-based providers when their children reach age 3 (Lamer and Phillips 1994). Focus group participants from New Jersey's REACH

program wanted to move their children to center-based programs when they began talking and preferred not to use **relative** care for their older preschoolers (Porter 1991).

Sonenstein and Wolf (1991) reached similar conclusions about how parents define quality in their study of mothers receiving Aid to Families with Dependent Children (AFDC). While all mothers in their study emphasized concerns about the quality of adult supervision in the child care setting, other quality-related concerns differed according to the age of the child. Mothers of infants were most focused on child-caregiver ratios, indicating a concern for the level of individual attention and nurturing their children received. In contrast, mothers of preschoolers expressed more concern about the learning opportunities available to children in their child care arrangement.

For some low-income parents, cultural continuity between the child care setting and the home is also an important consideration. For example, African-American parents tend to prefer **African-American** providers (Mitchell et al. 1992). Parents may want their children to eat the same foods at child care as they eat at home (Porter 1991). Likewise, parents who do not speak English at home may seek child care providers who speak their language. Relatives or friends often meet these requirements for cultural and linguistic continuity.

Very little has been written about what parents want for their school-age children. In a study of low-income school-age child care, Miller et al. (1996) found that parents wanted their children to be in a learning environment after school but could not afford formal programs or lessons. Anecdotal evidence indicates that parents who live in dangerous neighborhoods want their children, even beyond age 12, to have constructive, supervised activities after school when eligibility for child care subsidies ends.

2. Relationship Between Parents' and Early Childhood Professionals' Views of Quality

Many of the features ~~that~~² low-income parents seek in a child care setting are closely related to the features that early childhood professionals associate with quality child care. Like parents, early childhood professionals view the safety of the environment as a **key structural** feature of quality child care settings (Love et al. 1996). A related priority for parents is finding caregivers whom they can trust to keep their children safe and to provide appropriate care. Early childhood professionals seek similar qualities in caregivers. While parents may choose relatives or friends in seeking a caregiver they can trust, early childhood professionals measure the ability to provide appropriate care according to a caregiver's level of education, training, experience, and commitment to child care as a profession. The definitions of quality most frequently cited by parents, a warm and nurturing environment for infants and a learning environment for older preschoolers, are generally consistent with how early childhood professionals define quality. Early childhood professionals include these characteristics of care in the category of quality measures associated with classroom dynamics and caregiver-child interactions, the **"heart"** of quality according to child care researchers (Love et al. 1996). To assess whether infants are cared for in a warm and loving environment, early childhood professionals would focus on such variables as caregiver behaviors and responsiveness, and the security of the caregiver-child relationship. To assess whether the child care setting provides a good learning environment, early childhood professionals have examined such aspects of care as the caregiver's verbal interaction with children, the use of age-appropriate activities and materials, and the types of activities in which children and caregivers are engaged.

There are some differences in perspective and emphasis between parents' and professionals' views about learning environments, however. Many parents seeking a learning environment for their preschool-age children may be unintentionally looking for developmentally inappropriate methods

of learning. For example, they may expect their children to sit for long periods memorizing the alphabet or their numbers, **rather** than learning through extending the children's present interests and activities (Fuller et al. 1996). Moreover, early childhood professionals would not view warmth and learning as different goals, with warmth appropriate for younger children and learning appropriate for older children. Instead, they would view a learning environment as important for infants as well as for preschoolers, and they would say that, for children of both ages, learning should take place in the context of a warm and loving environment.

Parents' emphasis on cultural continuity may also be related to the quality of caregiver-child relationships. While few studies of child care quality have included cultural continuity between child care setting and home as a variable, one could argue that such continuity would support the development of secure and positive relationships between caregivers and children. A child whose caregiver speaks the same language, understands the child's cultural background, serves foods familiar to the child, and employs a similar approach to child rearing as the child's parents is most likely to feel secure in child care and attached to the caregiver. In the Early Head Start Local/National Evaluation and the Low-Income Child Care Study, researchers **are** beginning to explore the role of cultural continuity in creating a quality child care setting.

Emlen (1998) conducted several focus groups of parents to identify aspects of child care quality that were meaningful to parents. He used the information from these focus group discussions to develop quality of care scales that can be used to measure the following features of the caregiver and the child care arrangement using parent report, rather than direct observation:

- Warmth and interest in my child
- Rich activities and environment
- Skilled caregiver

- Talk and share information
- Caregiver **accepting** and supportive
- Child feels safe and secure
- Child getting along well socially
- High-risk care

These scales measure aspects of classroom dynamics and caregiver behavior that are similar to those developed by child care researchers and practitioners, but they were developed with the understanding that parents and a trained observer do not observe the child care setting under the same circumstances. This theme is important as we consider differences between parents' and professionals' evaluations of child care quality.

3. Divergence in Parents' and Professionals' Evaluations of Child Care Quality

While parents agree with child care practitioners and researchers about most of the important features of a quality child care arrangement, they do not always evaluate their child's care setting as a trained observer would (Cryer and Burchinal 1995, and Emlen 1998). For example, most children do not receive high-quality child care, yet most parents report high levels of satisfaction with their child care arrangements (Cryer and Burchinal 1997, Hofferth et al. 1991). In a national survey of parents, Hofferth et al. (1991) found that 96 percent reported that they were either "very satisfied" or "satisfied" with the primary care arrangements for their youngest child.

Yet, satisfaction with child care arrangements may not necessarily reflect a high opinion of child care arrangements. For instance, in the same national survey of parents that showed such high levels of satisfaction with child care arrangements, 26 percent of the parents answered yes when

they were asked whether they would choose a different child care arrangement if all arrangements were available to them (Hofferth et al. 1991).

Emlen (1998) has extensively studied parents' views of the quality of child care and suggests that part of the reason for very high rates of satisfaction with care that is typically rated mediocre to poor has to do with parents' awareness of feasible options. Satisfaction does not mean that quality is high – it simply means that parents view it as the best they can get. Emlen has developed several parent-report measures of features of child care (not limited to quality) that more closely gauge parents' assessments of quality. On a global rating of quality, 93 percent of parents rated their child care quality as perfect, excellent, or good. However, when asked whether they would choose this care again if they had to choose again, 84 percent said yes, and, Emlen (1998) notes, “68 percent said *the care I have is just what my child needs*, which is 32 percent who couldn't say that and didn't.” He concludes that parents can distinguish between their child's needs and what may be their best option under their particular circumstances of family income, their own employment requirements, and their knowledge of the available supply of child care.

Another explanation for parents' apparent satisfaction with mediocre or low-quality child care is that they do not have enough information to adequately assess the quality of child care settings. Parents and trained observers rate the quality of child care in very different ways. Parents may observe the child care arrangement for a few minutes at the beginning and end of each day and form general impressions that are not written down from day to day, while observers watch and record details of events over several hours. To test this hypothesis, researchers in the Cost, Quality and Child Outcomes in Child Care Centers Study asked parents to rate the importance of various aspects of child care quality, and then to rate the quality of care their children received in each area. The parents' ratings were then compared with ratings given by trained observers (Cryer and Burchinal

1997). Parents rated virtually all aspects of quality as very important, indicating general agreement between parents and **early childhood** professionals about the importance of quality child care. Parents, however, consistently rated the care their children received as significantly higher than did the trained observers. Compared with the parents' ratings of items that were easier for them to observe, ratings of items that were particularly difficult for parents to observe were much less congruent with observer ratings. This finding supports the idea that, unlike professionals and researchers, parents do not have adequate information for fully assessing the quality of care their children receive. Studies of low-income parents have found that many choose a child care arrangement without first visiting and inspecting the home or classroom, and many others sign up for the first child care arrangement they find with an opening, without evaluating others (Kisker et al. 1989). This practice may lead parents to choose poor-quality arrangements and reduce their awareness of better alternatives. In addition, the difficulty of changing child care arrangements because of inflexible jobs may make parents less inclined to seek more information about available options.

Emlen also notes that part of the discrepancy between parents' and observers' ratings of quality may be attributed to differences in conceptualizing quality and to different standards and criteria for quality. Trained observers have the benefit of the tremendous progress made over the past few decades in defining and measuring quality in child care, ideas that are only slowly being disseminated to parents and the general public (Emlen 1998). At the same time, many parents have never seen high-quality, group child care, making it more difficult to evaluate the quality of an arrangement in a short visit made while searching for a child care arrangement.

Despite the many hypotheses about the reasons for a discrepancy between parents' and trained observers' ratings of the same child care setting, none has been sufficiently tested in a way that

would support conclusions about which factors are most important. We do not yet know how parents' perceptions of ~~the~~ quality of a child care arrangement are formed, what role outside information might play in forming these perceptions, and how parents' perceptions may change over time in response to daily events in child care and to the child's behavior and development while in that child care setting. As we discuss in the next chapter, while the quality of child care as measured by professionals and researchers may be a more reliable evaluation of the quality of the child care arrangement, parents' perceptions of quality may be more important than "professionally defined" quality as an influence on their employment decisions. For this reason, we need more information about the relationship between professional evaluations and parents' perceptions of quality.

¹ The National Study of Child Care for Low-Income Families is a five-year project that will examine the supply and demand for child care and the effects of child care and welfare policy on child care markets in 25 low-income communities within 17 states. In 5 of the study communities, researchers will also conduct a parent survey on employment and child care choices and measure aspects of the children's experiences in home-based care arrangements. The study is being sponsored by the Administration for Children and Families, DHHS, and is being conducted by Abt Associates, Inc., and the National Center for Children in Poverty, Columbia University.

² The Early Head Start Local/National evaluation is an evaluation of ~~the~~ impact of Early Head Start on children and families in 17 communities. The study is being sponsored by the Administration for Children, Youth and Families, DHHS, and is being conducted by Mathematica Policy Research, Inc. and Columbia University.

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III. THE RELATIONSHIP BETWEEN CHILD CARE QUALITY AND EMPLOYMENT

The quality of child care can affect parents' decisions about whether to work or how much to work. The possibility of a relationship between child care and employment decisions is easiest to see through examples of very poor-quality or very high-quality child care. A very poor-quality child care setting might be unsafe or unhealthy, making injury or illness common. A poor-quality child care setting may also have very high turnover so parents and even children cannot establish a relationship with the provider. Or providers may be harsh with children. These dramatic problems in a child care setting may lead parents to remove the child immediately. Depending on how quickly an alternative arrangement can be found, the parent may miss several hours or days of work. If the parent's employer cannot accommodate the child care emergency, the parent could end up leaving the job altogether. Alternatively, very high-quality child care may make the parent feel more comfortable about working because the child is well cared-for. Children will be safe and healthy in these environments, and parents will develop relationships with a stable group of providers. Parents will notice over time that their children are learning new things in child care; and are developing good social skills and appropriate ways of behaving when they are excited or angry. Because parents believe that their children are safe and are gaining positive benefits from child care, they will be more able to focus on their jobs while at work and will be less likely to experience the disruption of changing child care arrangements.

Improving the quality of child care beyond a very low level might make a difference for parents' employment outcomes, but we have little research from which to conclude how much change in quality is needed to yield better employment outcomes. In fact, we cannot answer many important

questions with the available research. For instance, are there particular features of child care settings that, if improved above a certain level, have a particularly large payoff in terms of employment outcomes? Can we define a cost-effective threshold for quality that yields employment benefits that outweigh the increased cost? Or can the employment benefits of high-quality child care relative to the existing quality of care for low-income families justify the cost of increasing child care quality to that point?

In addition to these general gaps in our knowledge about the effects of quality child care on employment, we know very little about the quality of school-age child care in particular in the U.S. School-age children of low-income working parents are less likely to be in lessons or formal child care programs of any quality, and parent or relative care is common (Hofferth et al. 1991, Miller et al. 1996, Seppanen et al. 1993). To date, some studies have linked the type of school-age care with children's outcomes but have not looked at how the types or features of school-age care might affect parental employment. We would expect that the type of school-age care and features of care that might matter for employment would vary depending on the age of the child, the parent's work schedule, and neighborhood characteristics. However, much more conceptual, and empirical work is required to define quality in school-age child care before we can begin to examine the effect of quality in school-age child care on parents' employment. Recent debates about funding school-age child care programs seem to be about having a program for children after school compared with no supervision at all. For this reason, we would distinguish type of program (formal care versus self-care) from the quality of the program and suggest that future research instead examine the effects of both types of school-age care on employment.

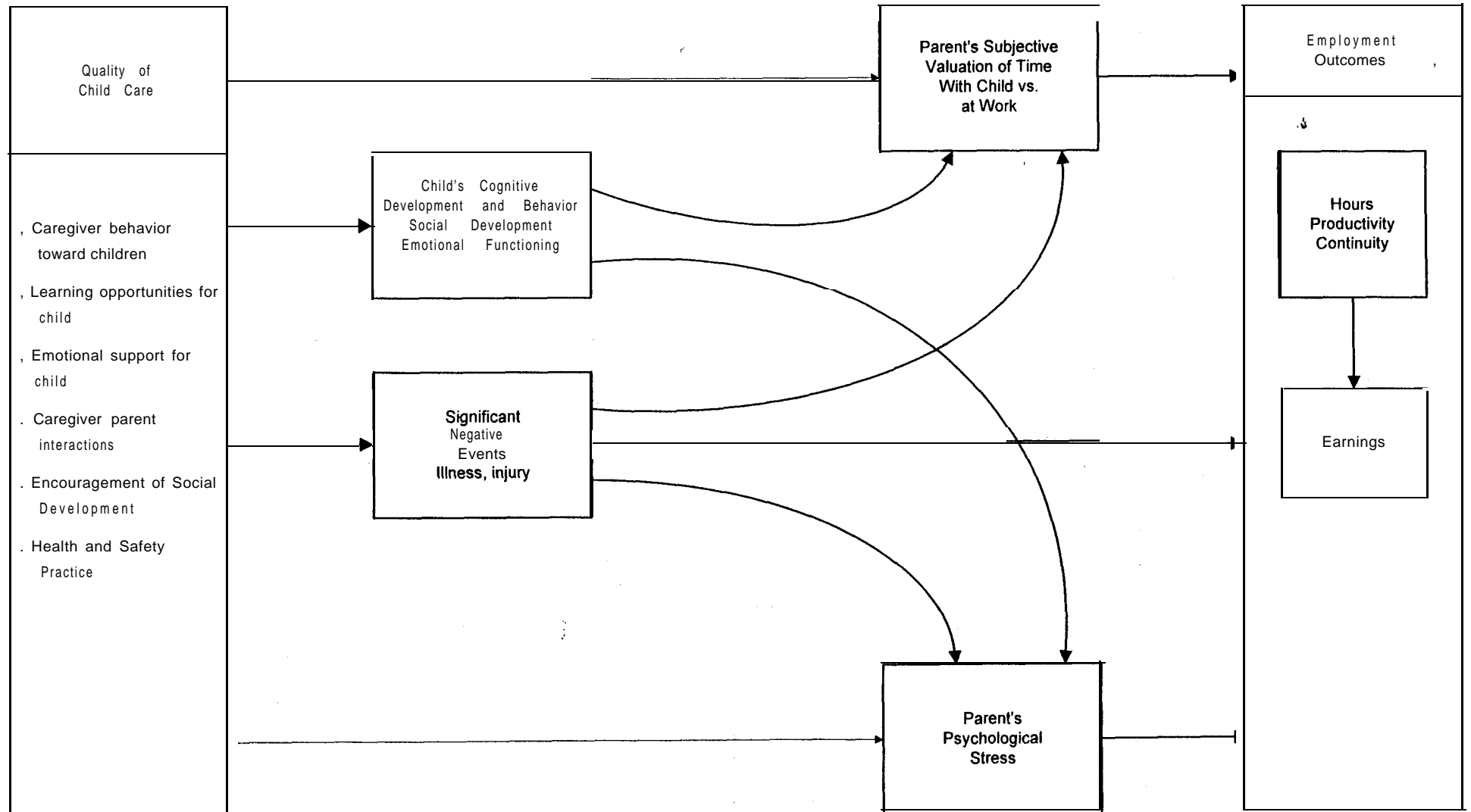
A. FRAMEWORK FOR RELATING CHILD CARE QUALITY AND EMPLOYMENT

We have identified ~~several~~ ways in which the quality of child care may affect employment. Figure 111.1 illustrates this relationship. In this framework, child care quality represents not just high-quality child care, but any level of quality in any child care setting that parents could choose. As discussed in Chapter II, we define quality of care in terms of features that may affect children's development and that can be found in any type of child care setting for children of any age. The figure shows the four most important features that define the quality of a child care setting: caregiver behavior toward children, learning opportunities, emotional support, caregiver-parent interactions, encouragement of social development, and health and safety. To the extent that cultural continuity and the familial relationship between the parent and caregiver improve the quality of child care for children, these two aspects of care will be manifest through the quality of caregiver-parent interactions and the emotional support and learning opportunities provided to the child.

On the right side of Figure III. 1, we highlight four major employment outcomes that may be affected by quality child care. First, a parent's decision about whether to work and the number of hours to work may be affected by the quality of care. Second, child care may disrupt a parent's work schedule if the quality of care is poor, since parents will need to miss hours or days of work to tend to an ill child or find a new child care arrangement. Continuity of employment over time may be affected either by the parent's decision to continue working in the face of a child care crisis or by the employer's response to any disruptions in work hours or loss of productivity that are attributable to poor-quality child care. Third, productivity on the job is an important outcome of child care quality, since parents who are distracted by child care concerns may be less productive at work. Together,

FIGURE III.1

PATHWAYS THROUGH WHICH QUALITY OF CHILD CARE COULD AFFECT PARENTS' EMPLOYMENT OUTCOMES



the parent's hours of work, productivity, and continuity of employment will lead to changes in earnings over time, which is the fourth important employment outcome.

In the discussion that follows, we address these pathways through which child care quality may affect parents' employment outcomes. We frame our discussion in terms of the mother, since we are using a model of individual choice to highlight the most important ideas, and most parents leaving welfare for employment are single mothers. However, the discussion is equally applicable to single fathers and to two-parent families, although the decision-making process for two-parent families is more complex.

The essential idea relating child care quality to employment outcomes is that the quality of child care that a parent can find may lead her to change her ideas about how valuable her time is at home compared to time at work. The quality of child care may also affect the child's cognitive and behavioral development, which could confirm or modify the parent's evaluation of the relative value of the caregiver's time with the child, further changing the parent's evaluation of the relative value of her time at home versus time at work. The quality of child care may also be related to the frequency of significant negative events, for example, injury to the child or caregiver absences, and these events would affect the parent's evaluation of the relative value of her time at home or at work. Finally, the quality of child care can affect the level of stress the parent feels about balancing her work and family roles. In turn, this level of stress (high or low) could be enhanced by the effects of child care on child development or on the incidence of serious negative events in child care.

1. Cognitive and Behavioral Development in Child Care

A large body of literature has examined the relationship between the quality of child care and children's cognitive and behavioral development. We do not summarize that literature here but refer

to the able review by Love et al. (1996), which concludes, on the basis of many studies that have used a variety of child **outcome** measures and a variety of quality indicators, that there is a positive relationship between child care quality and child well-being.

Love et al. also point out that the estimates of the effect of quality on children's outcomes in these studies tend to be biased because they **do not** control for family background factors that may affect both the choice of child care and children's outcomes. Important progress would be made in this area if a study could be designed to control for family factors, either through random assignment or longitudinal designs, so that the effect of child care on development could be estimated more accurately.

The effects of child care quality on cognitive and behavioral development over time will affect the mother's evaluation of the quality of the child care setting and the value of her time at home compared to at work (discussed below). Effects of child care on children's development will also affect the level of work-family stress the parent feels. If the child is developing significant behavioral problems that manifest themselves at home, or if the child is not reaching expected developmental milestones, the mother may feel more stress about the time she is spending at work. Conversely, if the child is developing favorably, the mother may feel less stress as she tries to balance her time and energies both at work and as a parent.

2. Serious Negative Events in Child Care

In addition to what the parent learns about the child care setting through daily observations of the provider and her child's development, significant negative events--for example, an injury to the child--may also occur. Because these events require an immediate response, they directly affect a parent's work schedule. Other examples of significant negative events include repeated unanticipated

absences by the provider, unhealthy conditions in the child care setting that cause the child to become ill frequently, or harshness or neglect on the part of the provider. Any of these events could temporarily take the parent away from his or her job and cause a further loss of time from work if the parent decides to change child care arrangements. Because these events are so extreme, they can significantly affect the parent's perception of the quality of the child care setting and the level of stress caused by the need to balance work and family roles.

3. Relative Value of the Mother's Time at Home Compared to Work

Parents choose to work and to work for a certain number of hours based on the earnings they expect to receive (net of child care costs) and the value they attach to their time at home. The effect of child care costs on employment, which is to reduce the returns to working, has been extensively studied (see Council of Economic Advisers 1997). However, the effect of child care quality on employment has received very limited attention by economists. As mentioned, child care quality can affect employment decisions by changing the relative value of the mother's time at home relative to time at work.

An extensive body of literature discusses fertility decisions and parental investments in children, and is based on the common-sense notion that parents care about their children and therefore will spend time and money in ways that will improve their children's well-being and life chances (Becker 1981). Becker defines child quality as either the income and wealth of children as adults or children's utility at adulthood. When children are young, the time of adult caregivers--parents and other caregivers --are important inputs into the development of child quality.

The value of the mother's time at home depends partly on her assessment of the value of her contribution to her children's development and well-being, compared to the contribution of another

caregiver, during the hours she could be working at a job outside the home. The relative value of a mother's contribution **versus** another caregiver's contribution to the child's development and well-being may vary depending on the child's age and the hours being considered. It does not imply that the parent must feel that she is less skilled than the other caregiver. For example, many mothers enroll their children in a preschool for three hours each day even when they are not working outside the home because they believe their children will be better off by spending time in preschool than at home for a few hours per day. A parent who is considering employment has a slightly more complicated decision to make because she must consider the relative skill of the substitute caregiver as well as the income she might earn from employment. An employed parent will search for a caregiver who will promote her child's development while she is working, so that the child is better off, with this caregiver and the income the mother can earn from working, than if the mother cared for the child herself and did not contribute that income from work outside the home. These ideas were developed by Connelly (1988), who builds on Becker's framework and theorizes that parental and nonparental care are substitutable for one another, but not perfectly; as a result, the mother's employment decision is based on the negative effect on child quality that ensues from each hour she is working and away from her child, and the positive effect on child quality of every hour of purchased child care.

Another way of looking at this issue is to assume that the mother's utility depends on child quality, C , consumption goods, X , and hours spent with the child, H :

$$U = u(X, C, H_M)$$

Here, all of the mother's time is spent either working or caring for the child. We define H_N as the hours the nonparental caregiver is with the child, who must always be in the presence of the parent or a nonparental caregiver.

Child quality is a function of the mother's time with the child and the value of that time in producing child quality, the nonparental caregiver's time with the child and the value of that time in producing child quality, $V(H_N)$, and consumption goods, Z , which must be purchased to improve child quality:

$$C = C(H_M, H_N * V(H_N, Q), Z)$$

To simplify, we have normalized the value of the mother's time in producing child quality to 1 so that we can consider the value of the nonparental caregiver's time in relation to the value of the mother's time. The value of the nonparental caregiver's time relative to the mother's time with the child changes over the hours of the day. Over some number of hours, the value of the nonparental caregiver's time could be greater than the value of the mother's time. For example, a mother may believe that a half-day preschool program will contribute more to the child's cognitive and behavioral development than would her own time at home with the child during those hours. Over some other number of hours, the value of the nonparental caregiver's time could drop below that of the mother. At this point, the mother might still choose to work if the value of the additional earnings from that hour of work in purchasing other goods, Z , that also improve child quality, and other general consumption goods, X , that the mother values exceeds the value she would place on that hour spent with her child and on the loss in child quality that would result from another hour in child care that is less beneficial than maternal care.

We have specified the value of the nonparental caregiver's time in producing child quality as dependent on both the number of hours the nonparental caregiver is with the child and the quality of the child care arrangement. It is noteworthy that the value of the mother's time and the substitute caregiver's time in producing child quality are subjective measures based on the mother's perception of the quality of the child care arrangement and the quality of her own care. Her assessment of the quality of the child care arrangement will be based on her observations of the caregiver, on the child's cognitive and behavioral progress while in that person's care, and on the incidence of serious negative events in child care. Therefore, to the extent that improvements in the quality of child care as measured by developmental psychologists go unnoticed by the parent, we would not expect to observe a corresponding improvement in employment outcomes. However, if the mother were given information about the quality of the child care arrangement, if there were noticeable differences in the quality of care, and if the child's cognitive ability and emotional behavior improved beyond the mother's expectations while the child was in the child care setting, then we would expect her to change her valuation of the care provided by the nonparental caregiver, which in turn may improve employment outcomes.

This discussion has assumed that the increase in the quality of child care takes place without an increase in the hourly cost of that care. Any increase in child care costs that might accompany an improvement in quality would diminish the positive effect of better quality on employment because higher child care costs decrease the financial benefits of work that accrue to the mother. The assumption of no cost increase is unrealistic, but if child care quality is improved as a matter of public policy, the nation could also decide to publicly fund quality improvement so that the cost to families is very low.

4. Psychological Stress

Psychological stress has received perhaps the most attention in the literature relating quality of child care to employment outcomes. Arguments for increasing employer support for child care have focused on psychological stress as the mechanism by which quality, reliable child care might affect employment (Galinsky and Johnson 1998). The quality of child care can affect the level of stress the parent feels about leaving children to go to work. If child care is of very poor quality, the parent may worry about children's safety or general emotional well-being. This distraction will reduce productivity at work, leading to poorer performance, slower growth of earnings, and possibly, loss of the job. The stress experienced by a working parent may make her less able to cope with everyday pressures in general, leading her to quit her job. Negative events in the child care arrangement may increase stress to the point at which the parent decides to change arrangements, causing her to miss days of work.

Psychological stress is considered separately from the value of a parent's time spent with a child as an influence on employment because stress itself may lead to changes in productivity or decisions to change child care arrangements that may independently affect employment. For example, the mother who is using a poor-quality child care arrangement may choose some number of hours to work that make her as well-off as possible with respect to income and time with her child, but which still leave her feeling psychological stressed because she is not entirely satisfied with the child's care arrangement. This stress may lead to lower productivity, which in turn, may lead her to lose her job or earn less than she otherwise would.

Changes in the child's cognitive and behavioral development that are associated with the quality of the child care arrangement may reinforce the parent's level of stress. For example, if child care

is of relatively high quality, i.e., the child is learning more and behaving well, the mother may feel even more certain that her job has many benefits and few costs. This positive feeling may further reduce the stress related to dividing time between work and family, and in turn, increase productivity. Alternatively, if child care is of poor quality evidenced by behavioral problems and a failure to reach expected developmental milestones, the parent may become concerned that the costs of employment exceed its benefits, increasing the level of stress.

B. EVIDENCE ON THE RELATIONSHIP BETWEEN CHILD CARE QUALITY AND EMPLOYMENT

There is very little empirical data on the relationship between child care quality and employment. This is partly a result of the fact that different disciplines connected with child care/employment have different orientations. Economists analyze child care as a cost of maternal employment, and developmental psychologists analyze child care in terms of the impacts of this environment on children's development. Moreover, since it is expensive to measure child care quality, efforts to do so have not, until recently, been included in large-scale studies that measure parental employment. Ideally, a study of the effects of child care quality on the employment of low-income parents would be based on longitudinal data from a large sample of low-income families. This would allow researchers to control for the effects of family selection. An ideal study would also include measures of a range of employment outcomes (hours, months of employment, job changes, and earnings) and an assessment of the quality of child care over time, as measured by parent report and by conventional observational methods. Low-income parents would need to have access to the full range of child care arrangements so that employment outcomes could be measured for parents using child care of different levels of quality. Random assignment to different levels of

quality would also help to estimate the effects of quality on employment independent of family factors affecting selection of child care arrangements.

We searched three types of literature for empirical evidence on the effect of child care quality on the employment of low-income parents. Several national-level surveys of families with children include measures of parental employment and child care, but in most of these data sets, the measures of the quality of child care are inadequate, the information on parental employment is insufficient, and the samples of low-income-families are too small. Many studies of the effects of welfare reform and employment initiatives have measured employment outcomes for low-income families with young children, but most of these studies did not measure the quality of child care used by families in welfare-to-work and related employment activities. Finally, the literature on early childhood interventions reports on the effects of what is essentially high-quality child care for low-income families. But because many of the studies in this area did not measure maternal employment or the quality of care from the parent's perspective, the effects of the high-quality child care on employment could not be measured. We discuss each of these strands of the literature below.

1. National Studies of Families and Children

The data from several major national studies have the potential to help us establish and explore the link between parental employment and child care quality, but critical information on this relationship is missing. In some instances, this gap could be filled by adding the critical information to an ongoing data collection activity. In one case, the NICHD Study of Early Child Care, the necessary data are available and ready to be analyzed.

The National Child Care Study 1990 (NCCS) was based on interviews with a national sample of parents of children under age 13. The survey collected information on parental employment over

time but obtained only limited information about parents' perceptions of the quality of care, focusing mainly on structural **features** of the child care setting. This focus omits many aspects of quality that parents may be able to comment on. The information on the quality of child care in the NCCS is thus too thin to support a study linking quality of child care with employment (Hofferth and Collins 1996, Hofferth et al. 1991).

The National Longitudinal Study of Youth 79 (NLSY79) is a large sample of individuals ages 14 to 21 in 1979 who were surveyed annually until 1996 about employment, education, and other outcomes. From 1982 through 1985, respondents were asked about the type of care, number of hours of care, and weekly cost of care used for the youngest child. In 1986, a Child Supplement was added to learn about child care arrangements in the first three years of life and about the current development of children born to sample members. The child supplements have continued every other year through 1996. Again, the information on child care quality included only structural variables obtained by parent report, thus providing too narrow a perspective on the quality of the child care settings.

In both the NCCS and the NLSY, the parent reports about structural features were included in the hope that parents could provide reasonably accurate data that is correlated with the quality of the child care setting. However, as we noted in Chapter II, parents' perceptions of the quality of child care settings, though useful in their own right, do not act as a proxy for a professional's assessment of quality. The first half of this chapter suggests that parents' perceptions about quality contribute to their decisions about employment. Thus, a broader measurement of parents' perceptions of quality would be useful in studies that also ask parents about their labor force participation. A first round of interviews has just been completed with a new NLSY cohort of 10,000 children ages 12 to 16

years, the NLSY97. When this cohort reaches childbearing age, it would be useful to expand the range of child care features they are asked about.

The recently completed studies of the quality of center-based and home-based child care contain measures of the structure and process quality of a large number of child care settings. Although the measures are based on ratings by trained observers, they do not measure parental employment (or parent perspectives on quality) over time (Cost, Quality, and Child Outcomes Study Team 1995; Galinsky et al. 1994). Therefore, we cannot use these data sources to determine how child care quality affects employment outcomes for parents.

The NICHD Study of Early Child Care includes measures of parental employment and the quality of child care over time. These measures are based on ratings by trained observers, but the study sample of low-income families is relatively small, and we are unlikely to find the families distributed across the full range of quality child care settings. Nevertheless, an analysis of these data might provide some information about the effects of very low-quality child care on employment.

Analyses of these data have not yet focused on the relationship between quality of child care and maternal employment.

Several ongoing studies will collect data on parental employment and child care quality for low-income families (based on observer ratings), and analyses of these data in the coming years may provide more information about the relationship between the two. The Early Head Start (EHS) National Evaluation is collecting such data from parents who were randomly assigned to receive EHS services for their young children. EHS families are predominantly low-income and, through the EHS programs, may have access to high-quality, center-based child care. The Early Childhood Longitudinal Study--Birth Cohort Study (ECLS-B) will collect information on parental employment

and child care quality from the time of the child's birth. This national study will include a sample of low-income families **but** may share the NICHD Study's problem of having too few of these families that use high-quality child care.

The simplest way to obtain more information about the relationship between quality of care and parental employment would be to analyze existing and forthcoming data that include measures of both: the NICHD data could be analyzed most quickly, and the EHS and ECLS-B data will be available soon. To ensure that ongoing research questions can be addressed, however, we would also need to make information on a representative sample available over time. The best way to do this may be to add selected measures to the NLSY data sets, as the data already include measures of parental employment, child development, and some basic child care data.

2. Welfare Studies

We examined the literature on major evaluations of recent welfare reform initiatives that focus on employment outcomes for low-income parents, including the National Evaluation of **Welfare-to-Work** Strategies (the JOBS evaluation) (Hamilton et al. 1997); California's Greater Avenues to Independence (GAIN) program (Friedlander et al. 1993, Gilbert et al. 1992); the Teenage Parent Demonstration (TPD) (Kisker et al. 1998, Maynard 3 993); welfare waiver demonstrations in Indiana (Fein et al. 1997), Minnesota, Florida (Bloom et al. 1998), and Iowa (Fraker et al. 1997); and earlier state-based welfare-to-work studies, including the Massachusetts Employment and Training (ET) Choices program (Nightingale et al. 1990); San Diego's Saturation Work Initiative Model (SWIM) (Hamilton and Friedlander 1989 and Gueron and Pauly 1991); and Baltimore's Employment Initiative (Hamilton 1988 and Friedlander et al. 1985). Most of these studies considered the effects of child care on employment only by constructing subgroups based on the age of the youngest child

in the household (Fein et al. 1997, Fraker et al. 1997, Hamilton and Friedlander 1989, Hamilton et al. 1997). A few studies--the GAIN, TPD, and ET evaluations--measured the extent to which employment was interrupted because of child care problems (Gilbert et al. 1992 Maynard 1993 and Nightingale et al. 1990). One study, the TPD evaluation, measured participants' satisfaction and problems with child care arrangements (Maynard 1993, Kisker and Silverberg 1991). Only the GAIN evaluation attempted to measure the quality of child care using parent ratings and to relate that to parents' employment outcomes (Meyers 1993).

More specifically, Meyers examined how mothers' perceptions of the quality of their child care arrangements and the convenience of those arrangements affected their progress in JOBS activities. The sample included women participating in California's GAIN program who needed child care. Most of these women were voluntary participants. The study found that a mother's assessment of the safety of the child care arrangement and of the trustworthiness of the provider were important predictors of whether she was still active in job preparation activities or employment one year later. In addition, parents who reported using child care in which the child-staff ratio exceeded professional standards were more than twice as likely as those who used care in which the ratio did meet the standards to drop out of GAIN activities. The parent's assessment of the learning and social opportunities in child care were not significantly associated with the parent's job-related progress one year later. This study did not measure the quality of child care using assessments by trained observers, so we do not know how these might relate to parents' perceptions or to employment outcomes.

Related information on the effect of child care quality on a mother's ability to continue employment or job-related activities appears in the evaluation of the TPD program. In this program,

mothers who were first-time teenage welfare recipients in Newark and Camden, New Jersey, and in South Chicago were **randomly** assigned to a participant or control group. Members of the participant group were required to be involved in education, job training, or actual employment, and they received support services and case management. The control group received AFDC but did not have to meet any immediate work or schooling requirement. Kisker and Silverberg (1991) describe the results of a survey of these mothers four months after enrollment. More participants were active in employment or job-related activities at this point (49.8 percent of participants compared to 31.3 percent of control group members). About 20 percent of the active mothers in both groups reported having child care problems that led them to stop work, change activities, or change hours of the activity. When asked what child care problem affected their activities, participants were much less likely to cite the cost of child care (24.6 percent compared with 52.1 percent of control group members) or its availability (37.5 percent compared with 47.9 percent of control group members), reflecting the assistance they received arranging care. However, participants were much more likely to say that the quality of child care presented a problem that led them to stop working or change their activities or hours (29.1 percent compared with none of the control group members).

This finding suggests that mothers who are required to work as a condition of receiving welfare benefits may try to manage with lower-quality child care than they would in the absence of such a requirement, but that this low-quality care may be the reason that mothers interrupt their employment activities. While the TPD evaluation did not specify the types of quality-related problems that led mothers to interrupt their work, the GAIN study identified perceived safety, trustworthiness of the provider, and child-staff ratios as problems that contributed to different degrees to women's decisions to end their voluntary GAIN activities. Further research on the

relationship of child care to employment outcomes in the context of welfare reform is needed. This research would combine **parent** perceptions of quality, professional observations of the quality of the child care arrangement, and employment outcomes in the current environment of work requirements and welfare time limits. An important policy question concerns the quality of child care used by women required to work as part of welfare reform, and whether (or to what extent) the quality of or the types of problems associated with that child care leads them to curtail their work activities. Another question is how the parent's assessment of quality changes over time in relation to a professional assessment of quality.

3. Early Intervention Studies

The literature on early intervention provides an additional perspective on the extent to which the quality of child care might affect maternal employment. Early intervention programs provide virtually the only opportunity for low-income families to access high-quality care, and therefore, these programs offer researchers their best opportunity to measure the effects of high-quality child care on low-income families. A drawback of these studies is that the "child care" that is the focus of study is usually a carefully implemented program that would be very difficult to replicate in low-income, community-based settings. Moreover, parents in the studies are never asked about their assessment of the quality of these settings.

In a review of how mothers benefitted from eleven center-based early childhood intervention programs for children from birth to three years, Benasich et al. (1992) found that employment outcomes for mothers were examined in only six programs. Of these programs, five--the Abecedarian Project, the Birmingham PCDC, the Teenage Pregnancy Intervention Program, the Milwaukee Project, and the Teen Age Parenting Program--had significant impacts on such

employment-related outcomes as employment rates, employment stability, and earnings. Only the Perry Preschool Program **had** no measured effects on maternal employment.

More recently, Brooks-Gunn et al. (1994) reported significant effects of the Infant Health and Development Program (IHDP) on the employment of mothers. This random-assignment intervention designed to improve the health and development of low-birthweight, premature infants offered home visiting from birth to three years and center-based child development programming in the second and third years- of life. Brooks-Gunn et al. (1994) found that mothers in the intervention group were more likely to be employed than were mothers in the control group. Employment effects were strongest for mothers with a high school education or less. Cumulative months of employment for less-educated black mothers were 14.1 for the intervention group and 12.0 for the **control** group; for less-educated white mothers, months of employment for each group were 18.1 and 14.0, respectively. Intervention-control differences began to emerge at 18 months, which corresponds to the first data collection point following the start of center-based care services for the intervention group. The impact of the intervention on maternal employment was stronger for mothers of lighter babies (weighing 2,000 grams or less at birth), who were ~~the~~ most biologically vulnerable. These results are important because they suggest that the provision of high-quality, center-based care to low-income mothers of very young children can increase employment rates and improve the stability of employment over time, and that these effects may be greater for parents of children with special needs. No other recent studies have looked at the effects of high-quality child care on low-income parents.

IV. LINKING LOW-INCOME FAMILIES WITH QUALITY CHILD CARE

The previous chapter discussed how the quality of child care can affect parents' employment decisions. The quality of child care is not the only factor parents consider as they decide whether and how much to work, but it could have an important effect on employment. Some empirical evidence supports the idea that there is a link between the quality of child care and the employment of low-income parents of young children, although this relationship needs further study.

If research were to provide a basis for deciding that higher-quality child care is valuable in promoting employment among low-income families, then the next set of questions we would ask about the relationship between child care and employment decisions have to do with linking low-income families with higher-quality child care. In connection with this issue, we discuss supply considerations, including the quality of child care in the U.S., the relative scarcity of formal child care in low-income neighborhoods, and the cost of providing higher-quality child care. We also examine what is known about the demand for higher-quality child care by low-income families and consider how parent information, provider training, and child care subsidy policies could help link parents with higher-quality child care.

A. THE QUALITY OF CHILD CARE IN THE UNITED STATES

We do not have nationally representative estimates of the quality of child care across the full range of child care settings in the U.S. because measures of quality, and even generally accepted definitions of quality, do not exist for the full range of child care settings. However, even in the more formal child care settings for young children, for which measures of quality are well-established, data on the quality of child care are not nationally representative because of the high cost of measuring quality reliably.

The available data from a series of recent multi-site studies of child care arrangements for infants, toddlers, and preschool-age children suggest that very few child care centers or home-based child care settings would be rated as good quality on the available measures. These studies suggest that the quality of child care for younger low-income children is of even greater concern. Our discussion of child care in the U.S. begins with these two issues.

1. Quality of Child Care for Younger Children

While structural features of child care settings cannot be used as a proxy for process quality, there may be cause for concern when child-staff ratios and group sizes are higher than professionally recommended levels or out of line with even state regulations. Infants and toddlers, in particular, need a lot of individual attention from adult caregivers in order to encourage their social, emotional, and language development (Bomstein and Sigman 1986, Belsky et al. 1986), but a national study of formal child care in 1990 found that child care settings for older infants and toddlers were most likely to have group sizes, ratios, and levels of training that were below professionally recommended levels (Kisker et al. 1991). In many cases, ratios and group sizes reported by center directors were also out of compliance with state regulations (Kisker et al. 1991). For example, center classrooms serving only 1-year-old children have a recommended maximum ratio of 4: 1, but centers serving infants actually maintained an average ratio of 6.2: 1. Only 32 percent of the centers serving 1-year-olds had average ratios of 4: 1 or better; the rest of the centers had higher ratios, and 13.4 percent of the centers had ratios of 10: 1 or more. Between 19 percent and 33 percent of the centers serving 1-year-olds were out of compliance with their state's regulations for child-staff ratios. A recent comparison of state child care regulations in 1990 with quality criteria identified through research and practice found that about three-quarters of the states had regulations for group size and ratios that were poor or very poor in comparison with quality standards (Young et al. 1997). Given the low

prevailing standards for infant and toddler care in 1990, it is of particular concern that Kisker et al. (1991) found that many **providers** were out of compliance with their state's regulations on ratios for this age group.

Concerns about the quality of formal infant and toddler care are echoed in the Cost, Quality, and Child Outcomes in Child Care Centers study, which measured process quality of center-based child care in selected communities in California, Colorado, Connecticut, and North Carolina (Cost, Quality, and Child Outcomes Study Team 1995). Of the 225 center classrooms serving infants and toddlers, only 8 percent were rated good quality, and 40 percent were rated as being less than minimal in quality (see Table IV. 1). In the less-than-minimal-quality settings, children may face poor sanitary conditions; safety hazards; a lack of warm, supportive relationships with caregivers; and/or a lack of stimulating play materials that foster physical and intellectual growth. Compared with these infant and toddler classrooms, preschool classrooms were generally of higher quality. In the 511 preschool classrooms, 24 percent were rated "good quality," while only 10 percent were rated as being less than minimal quality.

An earlier study of the quality of center-based care found a similar distribution for the quality of center-based care in five other sites. The National Child Care Staffing Study rated quality in 643 infant, toddler, and preschool classrooms in 227 centers in Atlanta, Boston, Detroit, Phoenix, and Seattle (Whitebook et al. 1989). Even though researchers limited the study to classrooms in which caregiver-child ratios met recommended standards, the average scores only ranged from 3 to 3.5 for infant (3.17), toddler (3.57) and preschool (3.56) classrooms on a scale in which 5 is considered good quality (Whitebook et al. 1989).

TABLE IV. I
QUALITY OF CHILD CARE ACROSS TYPE OF
SETTING AND AGE OF CHILDREN

Type of Child Care Setting and Age of Children	Percentage of Settings Rated:		
	Less than 3.0	3.0 to Less than 5.0	5.0 or Above
Child Care Centers	12.3	73.7	14.1
Infant/Toddler Classrooms	40.4	51.1	8.4
Preschool Classrooms	10.0	66.1	23.9
Centers Serving Low-Income Children	1.7	69.7	28.6
Head Start Programs	0	56.4	43.6
School Programs	0	76.3	23.7
Other Centers	4.8	76.2	19.0
Home-Based Child Care	35.0	56.0	9.0
Regulated	13.0	75.0	12.0
Nonregulated	50.0	47.0	3.0
Relative	69.0	30.0	1.0

SOURCE: For child care centers: Cost, Quality, and Child Outcomes Study Team 1995. For centers serving low-income children: Layzer et al., 1993. For home-based child care: Galinsky et al., 1994.

Home-based care, either in formal, regulated family child care settings or in informal, nonregulated home-based sittings, is also rarely of good quality, according to a study of home-based care in Charlotte, NC; Dallas/Fort Worth, TX; and San Fernando/Los Angeles, CA (Galinsky et al. 1994, Kontos et al. 1995). Regulated home-based child care was rated as higher quality, on average, than nonregulated home-based care , but even in regulated care, only 12 percent of the settings were rated as having good quality (see Table IV. 1). In nonregulated home-based care, fully half of the settings were rated as having “**inadequate** quality,” meaning that the settings offered unsafe and unstimulating care for children; nearly 70 percent of the relative-care settings were rated inadequate.

Some have argued that providers of informal and relative care tended to receive lower ratings in the study of home-based care quality because the global quality ratings the researchers used omit such important features of informal and relative-care settings as the close relationship between parent and caregiver, continuity of care, and consistency of cultural and childrearing practices. Instead, the global ratings cover more institutional features that include the scheduling of activities, following routines necessary for managing a large group of children (even when only one or two children are being cared for), and having a variety of toys and child-sized furnishings in the home. However, informal and relative-care settings also were rated lower than regulated settings on such interactions measures as the caregiver’s sensitivity toward children and level of responsive involvement with children. Compared with providers of regulated care, relative care providers were rated higher on levels of detachment and on low-level involvement with children. Responsiveness of adults and involvement with children are important if children are to learn, build self-confidence, and develop socially.

Nevertheless, concerns about the appropriateness of quality measures in the Study of Family Child Care and Relative Care led to a different approach in the current National Study of Child Care

for Low-Income Families. This study will examine the range of home-based child care settings used by low-income families in **several** communities. Rather than attempt to define and measure quality, the study seeks to measure children's experiences in child care by using a range of instruments that characterize caregiver-child interactions, the child's experiences with peers and adults, and basic health and safety issues so that valid comparisons of quality across the range of child care settings can be made.

Response rates can be a serious issue in studies of child care quality. Child care providers may not want to have an interviewer observe the child care setting for several hours, and mothers may be unwilling to allow the interviewer to contact the provider to set up an interview and an observation time. In the Cost, Quality, and Child Outcomes in Child Care Centers study, response rates ranged from 41 percent in North Carolina to 68 percent in Colorado and Connecticut. In the Study of Family Child Care and Relative Care, 78 percent of the providers who were directly contacted agreed to participate in the study, while only 56 percent of the providers who were located by asking mothers for a referral participated in the study.

It is reasonable to be concerned that the providers who choose not to participate in the observational study offer lower-quality child care on average than those who are willing to be observed. In the NICHD Study of Early Child Care, the families whose child care arrangements could not be observed (because of either parent or provider refusal) had lower incomes and less stimulating home environments on average than those who were willing to have their care arrangements observed.

However, parents and providers who develop a relationship with the staff of a study are more likely to agree to participate in the observational component of the study. In the NICHD Study of Early Child Care, response rates for the observational child care study increased over time, from 79

percent at 6 months into the study to 90 percent at 36 months. It is possible that the shift from informal, in-home child care in the early years to more institutional forms of child care by age 3 may also help to explain the increase in response rates, but a growing relationship with study staff may have helped. The field needs to devote more attention to identifying ways of gaining cooperation in studies of child care quality so that we can have more confidence in the representativeness of the results of these studies.

2. Quality of Child Care for Young Low-Income Children

Studies of child care quality by income group suggest that children from middle-income families and many lower-income families receive lower-quality child care than do children from higher-income families. Phillips et al. (1994), based on data from the National Child Care Staffing Study and the Profile of Child Care Settings, found that quality in centers that predominantly served low-income children (family income below \$15,000 in 1989) was highly variable, with some centers having very low quality and others having very high quality. Centers that predominantly served high-income children (family income above \$60,000) provided the highest quality of care on average, and those that predominantly served middle-income children (family income between \$15,000 and \$60,000) provided the lowest quality of care on average across multiple measures that included ratios and group sizes, global quality indices, and indicators of caregiver behavior toward children. The curvilinear relationship between income and the quality of center-based care is likely to be the result of subsidies directed toward some child care settings for very low-income families. Examples of such settings include Head Start centers, public-school sponsored programs, and other centers in urban areas. However, centers that serve mostly middle-income families are not similarly subsidized, and the families themselves have a limited ability to pay for quality child care. For these

reasons, centers serving these families may have to skimp on staff salaries, materials, and equipment, to the detriment of quality,

Furthermore, research suggests that, as a group, children from low-income families may receive care that is of lower-than-average quality. For example, the National Child Care Staffing study found that low-income families use accredited child care centers at a lower rate than children from higher-income families (Whitebook et al. 1989). In addition, the centers used by low-income families had higher staff turnover rates, devoted a lower percentage of their budgets to teaching staff, and had staff with lower levels of training.

Layzer et al. (1993) provide more evidence about how the pattern of child care subsidies may lead to very different levels of quality for children from low-income families. They examined the quality of child care in 119 centers serving predominantly low-income' 4-year-old children in five states. The sample included Head Start centers, public preschool programs, and other child care centers. The study found that average quality, based on measures of global quality and caregiver behavior, was higher for Head Start and public preschool programs than for other child care centers. Moreover, the other child care centers showed more variation in quality scores, with more scores concentrated on the lower end of the continuum than was true of Head Start and public preschool programs. Notably, Head Start and public preschool programs receive substantial public subsidies and serve very low-income children, while the other child care centers rely on a mix of parent fees and more limited public subsidies, and they serve low-income and lower middle-income children. Moreover, many Head Start and public preschool programs consider their program goal to be child development and not day care for working parents, so they operate part-day and part-year, a practice which does not accommodate the schedules of most working parents. Thus, children of lower-

income working parents may have limited access to the best child care that can be available to children of low-income **parents** who do not work.

In contrast to the findings about center-based care, the findings on family child care and relative care suggest that children from **low-income** families (income below \$20,000) were in the **lowest**-quality settings on average, followed by children from middle-income families (income between \$20,000 and \$40,000), and then by children from high-income **families**(income above \$40,000). Average global quality scores- increased steadily by income group, as did average scores for caregiver sensitivity (Galinsky et al. 1994). About half of the low-income families in the study used relatives to provide child care, and researchers found that providers serving children from **low**-income families were less sensitive and had more restrictive attitudes toward child rearing than did providers who served children from higher-income families (Kontos et al. 1995).

An analysis of child care settings for **15-month-old** children from the NICHD Study of Early Child Care (NICHD Child Care Research Network 1997) shows that overall, there is a curvilinear relationship between family income and quality of care, but the relationship is not as pronounced as it was in the Phillips et al. (1994) study, which included only center-based care; ~~The~~ The NICHD study included home-based as well as center-based child care settings, and so the weakening of the curvilinear relationship found in Phillips et al. (1994) may be a result of including a broader mix of child care settings.

3. Quality for School-Age Children

We unfortunately know little about the quality of child care for school-age children generally and for low-income children in particular. Two studies indicate that low-income children are less likely than higher-income children to attend formal school-age programs. One study that focused

on out-of-school time for low-income children did examine quality, but used a sample in which only about one-third of the **mothers** were working. We discuss these studies further in this section.

A study of the characteristics of 1,300 formal before- and after-school programs in the U.S. (Seppanen et al. 1993) compared programs that primarily serve low-income families (on average, 55.5 percent of their enrolled children come from families with income below \$15,000) with those that do not primarily serve low-income families (on average, 10.1 percent of enrolled children come from families with an income below \$15,000). The staff composition by type of staff was the same across the two types of programs; the wages were comparable; and the education levels of staff were comparable. This study did not examine program quality more directly.

Low-income children are not enrolled in formal school-age programs as frequently as are higher-income children (Hofferth et al. 1991, Seppanen et al. 1993). A study focusing on after-school care for low-income children ages 4 years to 7 years in Worcester, MA, St. Paul, MN, and San Jose, CA found that most of these children were at home with a parent or other relative after school, watching television (Miller et al. 1996). Parents in the study cited economic, transportation, and safety barriers to enrolling their children in a formal program; but most of these parents did not work. Among employed parents (about 33 percent of the sample), 66 percent relied on the father, partner, an adult relative, or an older sibling to supervise the child at some point during the after-school hours; about 25 percent enrolled their children in an after-school program; 30 percent enrolled their children in lessons at some point during the after-school hours; and about 10 percent left their children home alone at least for some period of time. (Because many children were in multiple arrangements, the percentages sum to more than 100.)

Miller et al. (1996) examined two aspects of quality: children's activities and parents' satisfaction. It found that watching television dominated other activities, and that parents were

dissatisfied with the level of stimulation children were receiving during after-school hours. Unfortunately, however, the study did not examine these aspects of quality separately for children who were in self- or non-parental care while their mothers were working, and the sample of children of working parents was very small, so it is difficult to form judgements on the basis of this study about the quality of care for young, low-income, school-age children while their parents work.

B. THE SCARCITY OF FORMAL CHILD CARE IN LOW-INCOME NEIGHBORHOODS

Although high-quality child care is available to a limited degree for low-income families, primarily through well-subsidized Head Start and state preschool programs, these programs tend not to accommodate the schedules of working parents. The quality of other child care centers used by low-income children is much more variable. In this section, we look at the way in which center-based and licensed care slots are distributed as a means of exploring the idea that low-income families may face a more limited supply of center-based care, thus constraining their child care options. While formal child care is not necessarily of higher quality than informal care, many low-income parents want center-based care for their preschool-age children in order to prepare them for school (Porter 1991).

A study of the availability of center-based child care examined nationwide county-level and then zip-code-level data from Massachusetts on family income and the number of center-based classes and slots (Fuller and Liang 1996). The study found that center-based care tends to be available where it can be paid for, either by families themselves or by subsidy programs. Counties with higher median family income and greater concentrations of well-educated parents employed in professional or technical fields had a larger number of available center-based-care slots. Working-class and rural counties showed lower levels of supply of center-based care. The analysis of zip code areas in Massachusetts found that the supply of center-based care was lowest for working class and

lower-middle-income families (income of \$20,000 to \$40,000), greater for the lowest-income families (income below \$20,000), and most plentiful for families with a median income of \$40,000 and above. They attribute this curvilinear relationship between family income and the supply of center-based care to strong efforts by the state to support center-based care for the lowest-income families through subsidy programs.

The interplay between income, employment, demographics, and government support is also evident in an analysis of the supply of center-based and regulated home-based child care by zip code area in four counties in California (Fuller et al. 1997). The same patterns of licensed care supply by income are not found in every geographic area. In Los Angeles, Tulare, and Santa Clara counties in California, the supply of formal child care in affluent areas was as much as twice the level as it was in poor areas in these counties. San Francisco alone stood out because family income was not related to the supply of child care slots, a finding that the researchers attribute to greater political activism, local government spending, and possibly other county-specific factors.

A study of child care supply in Illinois showed a greater shortage of center-based care in low-income neighborhoods in a city with stringent child care center regulations and a state that provided less support than Massachusetts for center-based care for low-income families (Siegel and Loman 1991). As Fuller and Liang (1996) found nationwide, many rural counties in Illinois had few licensed center- and home-based child care slots per capita. However, Siegel and Loman found that the most severe shortages of licensed care exist in low-income neighborhoods of Chicago, where a few of the lowest-income quintiles of Chicago zip code areas had no center-based child care slots.

The GAO (1977) compared the current known supply of child care with the projected demand for child care under varying levels of work participation requirements in Baltimore City, Chicago, and Benton and Linn counties in Oregon (GAO 1997). Known supply generally includes child care

centers and regulated family child care homes, although in some states, known supply may also include some unregulated providers. The GAO found that the percentage of current demand that could be met by known supply ranged widely depending on the location and the age of the child. Infant care was very scarce in most sites, ranging from 16 percent of the projected demand in Chicago to 67 percent of the demand in **Benton** County, Oregon. Preschool-age care was the most plentiful, ranging from 74 percent of the projected demand in Linn County, Oregon, to 144 percent of projected demand in Baltimore City. School-age care was relatively scarce, with the percentages of projected demand met by known supply just slightly higher in each site than the infant care percentages. Collins and Li (1997) examined the supply of center-based care and regulated family child care in Maryland and Illinois by zip code in April 1996. They found that in Maryland, the number of regulated child care slots per thousand children under age 13 fell as the percentage of families in near poverty increased from less than 10 percent to more than 30 percent. In Illinois, the number of regulated spaces per thousand children was lower overall than in Maryland but had no discernable relationship to the percentage of families in near poverty.

More research is needed to untangle the effects of family income,; female labor force participation, state regulations, and subsidies on the price and supply of regulated child care. Moreover, studies of the supply of child care that are based on resource and referral databases omit legally unregulated care. In Maryland, only relatives are considered legally unregulated care providers, but in Illinois, relatives and others caring for fewer than four children are legally unregulated. While some research has questioned the quality of unregulated and relative care, they remain a very important source of child care for low-income families. Understanding how the supply of child care for low-income children responds to family income, the availability and level

of subsidies, state regulations, and women's labor force participation -will require that researchers have better definitions and estimates of the supply of unregulated care.

C. THE COST OF HIGH-QUALITY CHILD CARE

If policymakers are to improve the quality of child care for low-income children, they need a better understanding of what aspects of the various child care settings need to be changed and what it would cost to change them. Two recent studies have carefully examined the cost and quality of a relatively large sample of child care centers (Cost, Quality, and Child Outcomes Study Team 1995, Helburn 1995), and two other studies have examined the same in a sample of family child care homes (Kontos et al. 1995, Modigliani et al. 1996). Together, these studies provide estimates of the cost of major components of child care services and conclude that there is only a modest positive relationship between cost and quality. However, more work is needed to understand the relationship between the cost and quality of child care, since many factors affecting the quality of center-based care have not yet been identified and measured, and in home-based care, measures of quality that researchers believe are reasonable for smaller, unlicensed settings are just being developed.

Economists have used production theory as a framework for thinking about the cost of quality child care and what can be done to improve quality. In this view, quality child care can be thought of as a service consisting of several "inputs": staff or provider resources, materials and equipment, space, and the size of the group of children. In the shortrun, when the amount of space available for child care may be difficult to alter, the service providers (center directors or home-based providers) decide how to combine staff of various education levels and experience with groups of children of various ages, and how much and what types of materials and equipment to provide, within a given amount of space (Mocan et al. 1995, Mocan 1997, Blau 1997). Each of the inputs has an associated

price, which must be weighed against the income that can be generated from parent fees and any subsidies from private and public sources. We use this basic framework in the following sections.

1. Cost and Quality in Center-Based Child Care

The annual cost of child care in centers in the early 1990s was estimated to be \$6,576 per child. Child care is a labor-intensive service, so the cost of salaries makes up the majority of a child care budget. In the early 1990s, labor costs in centers were an average of 70 percent of the total budget, occupancy costs were another 14 percent, and food was about 5 percent of the budget. The average annual cost of \$6,576 per child is an average over all centers in the study, so infant care, which requires more staff per child, would be more expensive per child, while preschool-age care, which requires fewer staff per child, would be less expensive. The large share of costs attributable to labor suggests that any decrease in child-staff ratios or increase in salaries, which would raise labor costs without changing the number of children, would increase average costs of child care substantially.

Yet, the Cost, Quality, and Child Outcomes in Child Care Centers study (Cost, Quality, and Child Outcomes Study Team 1995) found that average costs increase only modestly with increases in quality (Helburn and Howes 1996; Mocan et al. 1995). Increasing quality by 66 percent from mediocre (a score of 3.0 on the ECERS or ITERS) to good (a score of 5.0 on the ECERS or ITERS) would increase total costs about 10 percent, or about \$300 per child per year. It costs even less than that to increase quality from poor (a score of 1.0 on the ECERS or ITERS) to mediocre.

The literature does not provide strong guidance to policymakers about what features of a center matter most for quality, or about what changes would help to bring about quality. Much of the literature on developmental psychology concludes that staff-child ratios are a critical element of quality, but recent research using good econometric specifications finds that the relationship between ratios and quality is modest (Blau 1997, Mocan et al. 1995). This conclusion is consistent with the

finding of the Cost, Quality, and Child Outcomes in Child Care Centers study (Cost, Quality, and Child Outcomes Study Team 1995) that increasing center quality by 66 percent (from a 3 to a 5 on the ECERS) would cost only about 10 percent more (Mocan et al. 1995). Since center budgets are 70 percent labor costs, the cost of increasing quality would have to be very high if staff-child ratios had a strong relationship to quality. Moreover, caregiver wages, staff education and experience levels, and other inputs also have relatively modest associations with quality scores, and together, these elements leave a large share of the variation in global quality scores to be explained by other factors (Blau 1997, Mocan 1995). Blau, using data from the National Child Care Staffing Study, estimates the relationship between specific child care center inputs to quality scores, and includes fixed effects in the model to estimate the effects of unmeasured center-specific factors that may affect quality. The author finds that the proportion of the variation in global quality scores explained by the regression rises from about 20 percent before fixed effects to nearly 70 percent after fixed effects are added (Blau 1997). Further information on what center-specific factors affected quality would be helpful, as fixed effects do not explain, in a manner useful for policymaking, what it is about the centers that generated their particular quality scores. Mocan et al.'s (1995) regressions on the CQO data captured approximately 50 percent of the variation in global quality scores, which may mean that the CQO data contain some additional measures of center features that contribute to quality.

The lack of a strong association between factors typically believed to influence quality and quality scores, and the importance of unmeasured center-specific factors in quality suggest that we have a lot to learn about what factors create a quality center and how centers can create a quality environment. Clearly, many mediocre centers have many of the same measured characteristics as high-quality centers--acceptable child-staff ratios, similar wages and staffing patterns, similar staff

education, training, and experience--and for this reason, models based on these variables find that these features are not very helpful at predicting which centers have higher quality. A rough analogy appears in the literature on 'quality in schools, a point noted by Blau (1997). In this literature, researcherstrying to relate school inputs (for example, money and class size) to outputs (usually test scores) have been debating whether money matters to school outcomes. Researchers are pressing ahead to measure more features of both the schools and the classrooms so that they can learn more about what does matter to produce results in education. Similarly, researchers in child care are trying to determine what factors affect quality scores for child care settings and have found that much of the variance in quality scores is not explained by the factors we have measured thus far.

Research on child care quality might benefit from moving in some of the directions taken in education research. First, researchers should relate inputs (ratios, group sizes, caregiver styles, and other factors) to outputs (measured outcomes for children). Second, more features of the child care setting that might make a difference for quality should be measured. Some centers do seem to put together staff, materials, and facilities in a way that creates a high-quality program for children. Are these centers "creaming" the most talented early childhood workers and providing mainly intangible benefits, such as a free rein to develop a good program and the satisfaction of participating in a good program with other talented staff? Or do these centers have high expectations for staff and provide strong on-the-job training? We need better data on additional features of centers that might help us understand what practices and features distinguish high-quality centers from others.

Some of these factors may have been captured in the data from the Cost, Quality, and Child Outcomes in Child Care Centers study. Mocan et al. (1995) included several variables measuring the administrator's characteristics (for example, education, professional involvement, and curriculum involvement) and found that the regressions relating quality scores to child care center inputs

explained more of the variation in quality scores than similar regressions reported in Blau (1997) that were based on data from **the** National Child Care **Staffing** Study, which did not include measures of the administrator's characteristics. Nevertheless, **Mocan** et al. (1995) included many other variables--including indicator variables for state, auspice, and extent of service (for example, **part-day**, summer camp, and sick care) that contribute to the higher R-square for these regressions but do not offer any obvious direction for improving the quality of care. Only about 12 percent of the centers in the Cost, Quality, and Child Outcomes **dataset** were of high quality. This small group of centers needs to be **studied further** and contrasted with mediocre and poor-quality centers so that we can measure more of what matters most for quality.

However, once we learn what factors contribute most to quality in centers, we may find that these approaches cannot be applied across all centers. For example, if good centers are "creaming" the most talented staff off the top, there may not be many good people left who are willing to work as child care teachers at current wage rates. Perhaps only 12 percent of all centers can manage to assemble and train the best staff at current wage rates so that they can attain quality. To attract additional good child care teachers and staff, it may be necessary to increase wages, which would increase the cost of improving quality.

While the estimated cost of improving quality in centers was small, the CQO study also found that the fee differential between mediocre and good quality centers was even smaller than the cost of improving quality. Researchers concluded that for centers that rely heavily on parent fees, such as for-profit and church-affiliated centers, there may be a disincentive to improve quality because fees cannot be raised sufficiently to improve quality. For other nonprofit centers with more diversified revenue streams, this disincentive may be weaker or nonexistent.

2. Cost and Quality in Home-Based Child Care

The costs of providing home-based child care were estimated as part of the study of quality in family child care and relative care (Helburn and Howes 1996, Kontos et al. 1995). The study found that home-based child care costs an average of \$4,660 per child per year. The provider's income and salaries for assistants and substitutes accounted for about 64 percent of the total budget, and food was about 12 percent of the budget. Occupancy costs (repairs, remodeling, utilities, and furniture) were about 12 percent of the budget. Thus, occupancy costs make up about the same proportion of the home-based care budget as they do for center budgets, but food costs are higher in homes and labor costs are smaller.

The EFCC study found that while home-based child care providers had very low earnings, providers who served eight or more children spent less per child in categories other than assistants and administrative expenses than those serving fewer children. Furthermore, the quality of care provided in homes with eight or more children was significantly higher compared to the average level of quality across all homes in the study. Thus, the homes providing higher-quality care tended to serve more children, and the associated cost per child tended to be lower.

The EFCC compared primarily poor- and mediocre-quality home-based child care because there were too few homes providing good-quality care in the study to support comparisons. Researchers found that the cost per child per hour was higher in homes offering mediocre quality care than in poor-quality home-based care. More research is needed to define acceptable measures of the quality of home-based child care. Once we have better information on the quality of home-based care, it would be useful to re-examine the cost of providing home-based care at varying levels of quality.

D. THE RELATIVE IMPORTANCE OF QUALITY IN CHILD CARE CHOICES OF LOW-INCOME PARENTS

To this point, we have discussed supply and cost factors that affect the availability and quality of child care for low-income families, and what it might take to improve the quality and availability of child care for these families. However, linking low-income families with better-quality child care requires that parents be interested in these arrangements. If a supply of better-quality child care were available, would families come? To examine this part of the issue, we review information on the importance of quality in the child care choices that low-income families make. The quality of child care is a very important aspect of the child's care arrangement, according to surveys of parents (Hofferth et al. 1991, Kontos et al. 1995). Among low-income parents responding to the National Child Care Survey 1990, 51 percent cited the quality of the child care arrangement as the first or second most important reason for choosing the main arrangement for their youngest child (Ross 1996). Yet, other factors must also be important. Despite parents' desire to use high-quality child care arrangements, many parents place their children in child care settings that are not of adequate quality. In Chapter II, we discussed how this discrepancy may be related to parents' ability to observe the quality of their children's care settings as professionals would. The discrepancy can also be attributed to the tradeoffs parents must make as they weigh their options. These tradeoffs may be particularly acute for low-income parents, as we discuss in this section.

Low-income families spend a much higher proportion of their income on child care than do higher-income families. For example, Hofferth et al. (1991) found that employed mothers with a child under age 5 and family income below \$15,000 spend about 25 percent of family income on child care, compared with 10 percent or less for families with income at or above \$25,000. Thus, it is not surprising that low-income parents responding to the National Child Care Survey 1990 were

four times as likely as other parents to cite affordability as a factor influencing their child care decisions (Phillips 1995).

Due to the time, expense, and difficulty low-income mothers may face transporting a child to child care using public transportation, convenience of location is another critical consideration for low-income parents when they choose child care arrangements. Commuting time (either to a job or to child care) reduces the effective hourly wage. Since time at home may be more valuable to single mothers who do not have other adults to help with housework or child care, a convenient location for child care may be even more important for them.

Other aspects of convenience are also important to low-income parents. Especially for parents who work nonstandard or changing hours and do not have other adults who can help with child care, convenience of hours is essential to maintaining employment. Likewise, parents who have inflexible work schedules and receive little leave time from work need child care that is convenient in terms of reliability. Sonenstein and Wolf (1991) found that among AFDC recipients in their study population, the mothers who were most satisfied with their child care had arrangements that were convenient in terms of hours and location, and they missed the fewest days of work because their arrangements were reliable. Likewise, Meyers (1993) found that when child care arrangements were inconvenient in terms of location and stability, parents enrolled in California's GAIN program were more likely to drop out of the employment and training program.

Parents' preferences for child care arrangements that they perceive to be safe, nurturing (for infants), educational (for preschoolers), convenient, affordable, and culturally appropriate often conflict with the child care arrangements available to them. Researchers have found that no single child care arrangement contains all characteristics desired by low-income parents because each type of arrangement has its own strengths and weaknesses (Mitchell et al. 1992). For example, relatives

may care for fewer children in addition to offering affordability, cultural continuity, and convenience in terms of hours. **Centers**, however, may provide more learning opportunities and a more convenient location. Likewise, Siegal and **Loman** (1991) found that mothers in their study expressed a desire for characteristics that could only be found in a combination of arrangements. For instance, many mothers desired the educational opportunities provided in centers but also wanted the convenience and affordability provided by relatives or other providers of informal care.

Emlen has identified flexibility as a major criterion parents use when choosing child care, and he asserts that all parents need flexibility in their lives in order to combine child rearing and employment (Oregon Child Care Research Partnership 1997). Although there are many ways in which parents can find the flexibility needed to meet their employment and child rearing responsibilities, **Emlen** identifies (1) job flexibility, (2) family flexibility, and (3) child care flexibility as the primary ones. To solve the puzzle of why parents do not always select the **highest-quality** child care arrangement, **Emlen's** research suggests that employed parents attempt to select an affordable and good-quality arrangement that also complements the degree of flexibility they have in their job and family circumstances. Low-income parents leaving welfare for work are likely to have inflexible family situations (because they are single) and jobs that are not flexible in terms of scheduling or leave time that would otherwise allow them to respond to child care emergencies. According to **Emlen's** framework, such parents would need to find highly flexible child care arrangements to sustain their employment over time. **Emlen** (1998) has found that the child care flexibility needed by low-income single parents with inflexible jobs tends not to be correlated with high quality. High-quality providers tend to be the most inflexible with respect to schedules for providing child care.

Thus, when low-income parents select child care arrangements, they must make tradeoffs and set priorities among the features of child care they seek. Because low-income parents often face constraints imposed by work schedules, lack of resources to pay for child care, and lack of transportation, they may need to choose child care that is convenient, flexible, and affordable, even though it does not provide the level of quality they desire.

However, as we discussed in the previous chapter, Meyers' (1993) study of participants in California's GAIN program suggests that there are limits to the tradeoffs that parents are willing make in order to continue employment or related activities. While some mothers in Meyers' study may have used arrangements that did not meet their preferences for quality but were convenient and affordable, the absence of some desired characteristics represented a floor below which mothers could not maintain their participation in GAIN. For example, when child-caregiver ratios did not meet NAEYC standards for the age of the child, mothers were twice as likely to drop out of the program. Likewise, decreases in parents' trust in their providers sharply increased their odds of dropping out of GAIN.

E. POLICIES DESIGNED TO LINK LOW-INCOME FAMILIES WITH HIGHER-QUALITY CHILD CARE

For the most part, our analysis of the literature so far indicates that low-income families with working parents are unlikely to have access to formal child care, and many are using informal and relative home-based care of uncertain quality. Recent research on parent preferences indicates that many are unhappy with the child care they are using, but that they have made what they believe is the best choice given the available options. Yet, the parent's evaluation of the quality of the child care arrangement may be an important factor in employment decisions.

If higher-quality child care were made a goal in policy that applies to low-income parents, we would need to know how to, encourage providers to offer higher-quality care and how to encourage parents to use it. Some policies intervene on both the supply and demand sides of the market, although a careful analysis of the policies, their implementation, and the results has not yet been done. We discuss a few examples here.

One example is military child care facilities, which in 1982 were declared, “the ghetto of American child care,” but at the October 1997 White House Conference on Child Care, military child care was held up as an example for others to follow. Because of their success developing and providing quality child care, staff who operate the military child care programs have been asked by the President to offer technical assistance to civilian child care providers. Brigadier General John G. Meyer Jr., Chief of Public Affairs, presented his assessment of how quality had been improved in military child care facilities. He cited higher funding, higher standards, enforcement of standards, and incentives for staff to complete training and remain in their jobs. Parents pay a fraction of the cost of child care, depending on their income, but child care facilities are heavily subsidized by the military. Standards are “at about the mid-range of state regulations” but are strictly enforced through four annual, unannounced inspections. Staff are required to complete substantial amounts of training within a certain amount of time. If they succeed, they are rewarded with higher compensation; if they fail, they lose their jobs. Child care facilities are expected to work toward national accreditation, and currently, 75 percent meet NAEYC standards. This approach to improving child care quality sets up a framework of financial support, expectations, and accountability, which may be contrasted with the approach taken by local child care agencies, which teaches child care providers how to improve quality, but usually without financial support, expectations, or accountability. While the full military model may not be transferable to the broader civilian world,

states are capable of providing more financial support for child care, setting reasonable quality standards and enforcing **them** through frequent unannounced inspections, and setting higher standards for staff education and training.

Many of the strategies used by the military focus on the supply side, but interventions that affect both parents and providers are also possible and may help to provide incentives and ensure accountability that can encourage higher quality. In Jacksonville, Florida, the Jacksonville Children's Commission, which contracts with the state's Department of Health and Rehabilitative Services to administer the child care subsidy programs for low-income working families, has developed a system of support and incentives for child care providers designed to improve the quality of child care for low-income families. Providers who are interested may apply each year to become part of a network that subcontracts with the agency. Under the subcontract, providers receive training and on-site technical assistance to improve the quality of care; in exchange, they are frequently monitored by the agency to ensure compliance with higher quality standards. The agency informs parents who receive child care subsidies of the availability of child care providers who subcontract with the agency and explains how the subcontract system works to **improve** the quality of child care. Parents are free to choose a child care provider that has a subcontract with the agency or any other legal provider outside the subcontract system. The fact that the agency counsels parents who receive child care subsidies about the quality of care so as to highlight the benefits of choosing providers under contract with the agency serves as an important incentive to those providers to pursue quality goals.

Similar initiatives are taking place in other areas, including Seattle's city-funded child care assistance program and North Carolina's Smart Start program. These programs have several elements that work to varying degrees on the supply and demand sides of the market. To improve

quality, providers need more resources, and they often need technical assistance and training in order to know how to improve quality. To ensure that the additional resources are used to improve quality, incentives must be offered to providers. Such incentives may include additional funding that is contingent upon meeting higher standards for quality. To ensure that the parents who need higher-quality child care are matched with good-quality providers, they need the necessary resources to afford higher-quality child care and information that will help them select higher-quality providers. No careful evaluations have been made of the effectiveness of these strategies in producing higher-quality care, the cost of doing so, or the degree to which agencies are successful in encouraging parents to choose high-quality child care.

Parent choice can be a challenge in these systems. Although the quality of child care can be improved through resources, training, and incentives for providers, parents may still opt for the informal provider or relative, potentially eroding provider incentives to improve quality. Thus, an important question concerns the choice the parent makes when she is well-informed about the importance of quality child care for herself and her child, and the consequences of that choice for employment and her child's development.

In a study of welfare and child care systems in 23 cities in 15 states, Ross (1996) found that few cities offered comprehensive information about the availability of child care and how to choose a quality child care arrangement to low-income families seeking child care subsidies. In a few cities, comprehensive information and subsidy services were available in the same place, ensuring that families received both financial assistance and help choosing child care. In other cities, services were coordinated with varying degrees of success. In some cities, no information about choosing child care was provided to families seeking subsidies. Clearly, much can be done to improve the match between low-income families, their jobs, and their child care arrangements. Ross (1996)

provides a discussion of best practices for informing parents about choosing child care. Counselors should discuss parents' needs in terms of schedule, job or family flexibility, any special needs of the child, transportation problems, and backup care if a provider child becomes ill. They should then discuss how different types of child care might meet these needs. Counselors should explain how to interview a provider, what to look for when observing a child care setting, and why it is important to visit at least three child care settings before making a choice. Checklists and brochures can be helpful. Only one city--Jacksonville--had strong parent information services coupled with a known supply of higher-quality child care. The effect of these counseling services on parents' choices of care has not been evaluated.

¹ Centers serving predominantly low-income children were defined as those in which at least 85 percent of the enrolled children came from families with income below 185 percent of the poverty line (\$24,790 for a family of four in 1991). Note, however, that 90 percent of Head Start children must have family income below the poverty line.

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V. SUMMARY AND RECOMMENDATIONS FOR RESEARCH

Child care and welfare program administrators who allocate scarce child care resources across families often view their task as a conflict between promoting employment by providing a little assistance to more families and promoting children's development by investing more resources in fewer families in order to purchase higher-quality child care. In this paper, we have examined the evidence for a link between the-quality of child care and employment that might lead to an answer to the question of how much assistance should be provided to each family if employment is the primary policy goal. If the quality of child care affects parents' employment decisions, then providing too little assistance may lead to poor-quality child care that undermines parents' efforts to become self-sufficient.

As we examined the literature on the questions of quality, parents' preferences, employment, and child care supply, we found enormous gaps and some inconsistencies. For instance, we have a very limited knowledge base about the quality of some important types of child care. We also have a limited understanding of the relationship between parents' and professionals' judgements about quality and about whether and by how much quality may affect the employment decisions of low-income families in the current welfare policy environment. Similarly, we do not know enough about how quality child care could be developed in low-income neighborhoods or about how parents can most effectively be encouraged to choose quality child care if it were made available. In this chapter, we discuss these gaps and make suggestions for a research agenda that could address them.

A. THE QUALITY OF CHILD CARE

Conceptualization and measurement of quality in formal settings for all ages is well-developed, although there are areas of measurement, including cultural variations in quality, that need further attention. For infants, toddlers, and preschool-age children, the quality of formal care has been measured extensively.

For the full range of home-based child care arrangements and all but the formal school-age child care arrangements, the research is further behind. Conceptualization and measurement of quality is much less well-developed, and there is a great need for work in this area. The definition and measurement of quality in home-based child care settings may be advanced by ACF's Study of Child Care for Low-Income Families. This study is measuring children's experiences in home-based child care although it is not explicitly defining and measuring quality. To measure children's experiences, the study will draw on observational ratings of caregiver behavior, children's activities, and the child care environment. Most of the measures that are being used to measure features of the child care setting are modifications or adaptations of existing measures. The researchers are emphasizing measures that can be used across a range of child care settings, from relative care to licensed, home-based care. This is an important strategy for addressing questions that compare child care settings and ask how important features of child care in a range of settings affect family and child well-being.

Although that study represents an important first step in measures development for informal care, only a few of the measures have been used elsewhere because, for the most part, the researchers are adapting instruments for the study. Our state of knowledge about child care quality and its correlates will be stronger if work can continue to identify aspects of quality and develop generally-accepted measures of quality, and then use them in a variety of studies and settings so that we can

gain a better understanding of how these measures relate to children's outcomes and other important variables.

- ***Continue to Identify Features of a Quality Child Care Arrangement, Develop Measures of Quality, and Use Them Across Studies Relating Quality to Child Outcomes*** – Efforts made in the National Study of Child Care for Low-Income Families to measure desirable and undesirable features of home-based child care settings should continue in the direction of identifying features of a quality setting and acceptable measures of those features. Measures development should continue so that researchers learn more- about the psychometric properties of the measures, develop more elaborate interviewer guides, and publish the measures so that they can be adopted by other researchers. Research on quality that uses these measures should report on the relationships between the quality of care measured by these instruments, features of the child care settings associated with quality, parents' perceptions of quality, and the cost of quality.

In the area of school-age child care, relatively more attention has been devoted to quality in formal settings, but these may not be appropriate for children older than 9 or 10. Much more work needs to be done to conceptualize and develop measures of quality in school-age child care that are appropriate across types of settings, across the age span, and in particular, for low-income children.

- ***Develop Measures of Quality in School-Age Child Care*** -Psychologists and education professionals should be brought together to identify the critical elements of quality in school age care and then, how they might be measured. This work should draw on parents' and children's perspectives on quality. Parents may want a safe place for their children where they can be supervised in constructive activities, or they may want children engaged in remedial academic work. The measures developed by this group should be tested in low-income school-age child care settings, across multiple sites, types of care, and age groups. Psychometric work would need to be done to understand the properties of the scales, and solid documentation for interviewers and researchers would need to be developed so that the measures could be used in a broader range of child care studies.
- ***Study the Quality of School-Age Care Used by Low-Income Children of Working Parents*** – The measures developed in the study described above should be used to study quality in multiple sites based on a sample of low-income school-age children of working parents. The study should obtain longitudinal data that can be used to track

changes in child care arrangements and children's development over time, so that it is possible to control for family selection effects when estimating the effect of child care quality on development.

The theoretical model of the effects of quality child care on parents' employment decisions described in Chapter III suggests that parents' opinions of child care quality are important in their employment decisions. Some important work has explored the relationship between parents' and professionals' evaluations of the quality of child care settings. However, additional efforts should focus on how parents evaluate quality and how these evaluations change over time as they observe their child's progress and obtain more information about the child care arrangement.

- ***Study Parents' Perceptions of Quality*** – A study of parents' perceptions of quality could be embedded in a longitudinal study testing the effects of investments linking low-income families with quality child care so that the study includes more variation in quality of care and enables us to measure changes in parents' perceptions over time. The study would consider such questions as: How are parents' perceptions of the quality of their child care arrangements formed, and how do they change over time? How do parents' perceptions of quality differ from those of professionals? What is the relationship between quality from the parent's point of view and employment outcomes, and what is the relationship between professional evaluations of quality and employment outcomes? What can professionals learn from parents about the quality of child care?

B. THE RELATIONSHIP BETWEEN QUALITY OF CHILD CARE AND EMPLOYMENT

Virtually no studies have examined the relationship between the quality of child care and parents' employment outcomes. The only exceptions are a recent early intervention study (Brooks-Gunn et al. 1994) and a study of JOBS participants in California (Meyers 1993). The former study contrasted professionally defined high-quality child care against generally available child care, which was likely of lower quality, and found that mothers entered employment sooner and were employed for more months when they had access to high-quality child care. The latter study used parents'

reports of the quality of child care across several different dimensions and found that parents were more likely to quit JOBS activities when their children were in settings that were crowded or not as safe as they might have been Both of these studies examined the effect of child care on employment for parents of children under six years of age.

Further research is needed on the relationship between quality of child care and parents' employment using a current sample of low-income working parents and parents receiving welfare who face work requirements and time limits. If we improved the quality of child care available to low-income parents, by how much would employment outcomes be improved? Many employment outcomes should be examined, including hours of employment, absences and time lost from work, continuity of employment, job progression and promotion, earnings, attitudes toward the job and co-workers, job stress, and work/family stress.

Some of these questions could be examined at relatively low cost by analyzing the NICHD Early Child Care Study database. Unfortunately, the NICHD sample of low-income families is relatively small. But the data are longitudinal, which would help in controlling for family selection effects, and they contain information on both employment and the quality of child care measured at frequent intervals. Similar opportunities to study the effects of quality child care on employment in longitudinal samples may become available when data from the Early Head Start evaluation and the Early Childhood Longitudinal Study – Birth Cohort are released. Another opportunity could be created by designing a research demonstration that would randomly assign low-income working parents and parents receiving welfare to have access to high-quality child care. We discuss this idea below.

C. LINKING LOW-INCOME PARENTS WITH HIGHER-QUALITY CHILD CARE

To bring low-income parents and higher-quality child care together, the quality of existing child care must be improved, and parents must be made more aware of what to look for in a quality child care setting.

The Cost, Quality, and Child Outcomes in Child Care Centers Study (Helburn 1995) examined costs and the quality of care in child care centers. Analyses of the data have identified some of the features of care that affect quality scores but leave a lot of the variation in quality unexplained. Further studies are needed to determine what features of child care centers make a difference for quality. In addition, we need more information about what it takes to improve quality in centers. The military child care centers and centers participating in North Carolina's Smart Start program are working toward improving quality, and their experience may be useful.

- ***Conduct a Process Analysis of Child Care Centers and Homes of Varying Quality*** — Good-quality centers and home-based care need to be examined and contrasted with moderate- and poor-quality centers and home-based care so that additional variables that contribute to the quality of the child care setting can be identified.
- ***Evaluate the Smart Start Child Care Initiative-Much*** more needs to be learned about North Carolina's initiative to improve the quality of child care across the state. A process evaluation would help to identify approaches that seem to be working and the response of child care consumers to improved child care quality in their communities. The evaluation would need to measure quality in child care arrangements participating in the Smart Start initiative and would involve talking to staff and agencies in several counties to identify a variety of approaches that seem to be working. The evaluation should also consider what factors seem to be a necessary part of a high-quality child care setting and how these might be measured in a study that includes a large number of child care settings. The goal of this part of the analysis is to learn more about the "center-specific factors" measured by Blau (1997) so that policies can be designed to make these factors more common in child care arrangements.

- ***Evaluate the Military Child Care Facilities***—In contrast to the Smart Start initiative, which seems to be voluntary and uses financial incentives for participation, the military model involves a **set** of rules, much like state regulations with strong enforcement, along with financial incentives. A process evaluation of this approach to improving quality would also be valuable to identify the major approaches to improving quality. Also important is the fact that the military child care program has worked with home-based providers to improve quality, and these approaches should be part of the process evaluation. What approaches to quality improvement seem to be effective for **home-based** providers? Finally, this process evaluation should also consider what seem to be the important components of a high-quality child care setting, and how these components could be measured in a study that includes a large number of child care settings.
- ***Learn More About the Wage Elasticity of Child Care Teachers ‘Labor Supply***—Blau (1993) has examined the supply of child care labor and concluded that supply is very elastic with respect to wages, but it appears that the current wage levels are not calling forth well-educated and well-trained professionals who can create quality programs for children. We suggest examining the military child care experience and possibly the Smart Start experience in North Carolina to learn about what wages are required to attract and retain highly qualified child care staff.
- ***Design an Intervention to Test Approaches to Improving Quality***—After the evaluations of approaches to improving quality, a demonstration should be designed to test the efficacy of different approaches to improving quality in center-based and **home-based** child care in low-income communities. The approaches might include a combination of direct or indirect provider training with some financial incentives, expectations, and accountability. Information should be collected about implementation issues, the quality of care over time, and parents’ choices of child care and their employment outcomes throughout the initiative.

The Quality in Family Child Care and Relative Care Study (Kontos et al. 1995) examined the cost of providing home-based care, but the measures of quality in that study have been criticized for bias against smaller-scale, kith-and-kin care. Very few homes in the cost study were rated as offering high-quality care. Therefore, it would be useful to conduct a cost sub-study as part of a future large-scale study of the quality of home-based child care, so that we would obtain cost information across a range of quality in child care providers used by low-income families.

- *Learn More About Features Related to Quality in Home-Based Care-Data from the National Study of Child Care for Low-Income Families* should be analyzed to learn more about what **features** of home-based care are associated with good developmental outcomes for children.

We also know very little about how the quality of home-based child care interacts with the age of the child, how quality changes with the supply of home-based child care, and how the quality of home-based child care might be improved. In home-based child care, where providers are unlikely to be trained as early childhood professionals, quality child care may be an accident of temperament and/or cultural values. Many home-based child care providers do not view themselves as professional child care providers, so they may not be receptive to early childhood training. Instead, training approaches may need to come from the parenting or family support fields. We need more research on effective ways in which the quality of home-based child care can be improved. We also need to know more about turnover and reliability in home-based child care arrangements.

We know very little about the supply of home-based child care and how it interacts with child care regulations, child care subsidy program rules, the state of the local labor market, neighborhood poverty, family income, and the demand for child care by low-income mothers. A fairly large supply of home-based child care appears to emerge when parents need child care services and/or when state welfare agencies are willing to pay unregulated care providers. More information is needed about how the supply of home-based child care reacts to demand and regulatory conditions in the current welfare policy environment of work requirements and time limits.

Response rates in child care quality studies need to be improved. A relationship between study staff, and parents and providers may help in this area. It may also be possible to improve the ways in which study staff communicate the goals of the study to providers they hope to recruit for the

study and develop the trust and interest of parents and providers so that they will participate in the study. Greater incentives may be necessary to encourage participation in the study, as child care observations can be fairly disruptive for providers.

Research is also needed on strategies for informing parents about the importance of quality child care for themselves and their children and about how to **identify** a quality child care arrangement. If parents were informed about the importance of quality and told where to find affordable, **high**-quality child care, would they use it? If they did not, would they choose child care of poorer quality? For example, we might find that the parents who receive information about a good-quality, **center**-based child care program that is affordable, but who choose a home-based child care arrangement instead may be the ones with access to good-quality home-based care. What strategies would be most useful and cost-effective for informing parents about quality child care? Many low-income parents also need flexible child care arrangements, so strategies for getting information to parents about child care may need to address flexibility as well as quality.

Many of these questions could be addressed by an intervention that would test approaches to providing low-income parents access to quality child care, give them the resources to pay for quality child care, and ensure that a supply of quality child care is available. The intervention to improve low-income parents' access to quality child care could take place in any community in which there is a supply, albeit limited, of high-quality child care. Ideally, the intervention would be implemented in conjunction with a well-organized child care subsidy system, in which all parents seeking financial assistance visit the same place, and this agency also offers good-quality information and referrals.

One intervention group would receive information about choosing child care based on the best practices developed to date. Recent work by Ross (1996) and by the National Child Care Information Center (1998) provides a discussion of best practices for informing parents about how to choose child care. Many parents do not follow any search procedure when they seek child care, so counselors would work with parents to help identify what features they are looking for in child care and what steps they should follow to improve their chances of finding it. Counselors would help parents develop flexible backup child care arrangements. Parents would be subsidized at a higher rate if they chose high-quality child care, so there would be no cost disadvantage to the family to choosing quality child care. Ultimately, the family's child care costs would be the same regardless of their choice of child care. Counselors would be available to help families when they need to change child care arrangements and to ensure that a child care placement was made. A second intervention approach would be to direct parents specifically to a few good-quality child care providers who reserve some slots for families in this group. Counselors would still need to provide parents with information about how to search for child care, help them identify what features of child care they are seeking, and help them arrange flexible backup child care. A third approach would have the agency work with both parents and child care providers to help parents identify and find the features of child care they are seeking and providers to supply the features of care parents want. The agency would act as an intermediary to help link parents and providers, but more proactively than is current practice in most R & Rs. Parents would receive information and coaching on search strategies, and they would offer information to agency staff that would help improve technical assistance to providers. The level of quality for this option would be determined as parents and providers work with the agency.

Research would address the following questions:

- What is the quality of child care chosen by parents?
- What factors affect families' choices of child care? How does the provision of information about choosing quality child care affect the quality of child care chosen? How does the provision of information about choosing flexible, high-quality child care arrangements affect the quality and flexibility of choices?
- What are parents' perceptions of the quality of their child care arrangements over time? Do parents and professionals come closer to agreement about the quality of a child care arrangement when parents have been informed about how to identify and choose a quality provider and have followed a more informative selection process? Are perceptions of quality affected by the degree of flexibility of child care arrangements? What can professionals learn from parents about the quality of child care?
- How does the quality of child care, measured from the professional's and the parent's perspective, affect employment outcomes? How do flexibility and quality interact to affect employment outcomes?
- Does the quality of child care make a greater difference for the employment outcomes of parents of infants and toddlers or for parents of preschool-age children? Does the flexibility and quality of child care make a greater difference for employment outcomes of parents of infants and toddlers or for parents of preschool-age children? Does consumer information affect the quality and flexibility of choices more for parents of infants and toddlers or for parents of preschool-age children?
- How does the quality of child care affect children's outcomes? The experimental variation in quality and the measures of quality and children's outcomes over time gives us a rare opportunity to measure the impact of quality child care on children in a methodologically sound way by controlling for family selection factors.

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